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NOTICE TO ADVERTISERS.

Copy and cuts for advertisements intended for a particular issue should reach the office of DOMESTIC ENGINEERING on Wednesday of the previous week if it is desired that a proof of the advertisement shall be submitted. New advertisements can be received up to noon of Wednesday of the week of issue, but no proof can be shown.

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Suggestion:
Cut out; frame neatly; put in show window; change weekly.

THE VITALS IN PLUMBING.

The purchaser of plumbing goods usually spends much time selecting a bath without a blemish, a lavatory without a fleck of carbon or a craze, or a water closet combination with perfectly finished woodwork.

It's foolish.

Any bath is perfect enough, any lavatory beautiful enough, and any woodwork serviceable enough.

Look after the vitals.

Carefully see that the stop and waste cock, the faucets and ball-cocks are absolutely perfect, guaranteed and bear the maker's name.

They either waste or save the water, sing or keep silence, become defective or wear satisfactorily for years.

Hail! Ye Plumbers

Representatives of the fraternity of Master Plumbers are about to meet in annual convention for the twenty-seventh summer. The writer considers himself fortunate that his connection with sanitary journalism began the same year which brought the National Association of Master Plumbers into being, and that beginning with its second meeting in Baltimore he has been, with few exceptions, an attendant upon the twenty-five conventions which have since been held. It is unlikely that there will be more than a half dozen men at Detroit next week who were delegates at Baltimore, and yet the work of the national association goes on, handed down from generation to generation, the traditions kept alive by new men and new policies outlined to meet changing conditions.

Sometimes I wonder what would have been the effect if, instead of bringing the Baltimore resolutions into life as was done at that memorable second convention, the National Association had launched itself upon an educational campaign; if instead of initiating the policy of Trade Protection it had begun systematically to educate the public as to the need of proper plumbing and the plumbers themselves as to the need of being better business men. I have often wished I might be enough of a seer to determine whether, by the adoption of such a campaign of education, the trade would not be in a better position than it now is?

When all is said, and much can be said in favor of trade protection, it is doubtful if the plumber, as a class, stands as high as a business man as he did twenty-five years ago. As good old Sir Roger de Coverly might say, "Much might be said on both sides." But there is no way we can determine which would have been the wiser course to have pursued. Fortunately it is yet not too late to begin the educational work. Trade protection, so far as it will prevent the general sale of plumbing goods to consumers, is effective, and can be continually kept effective without exhausting the energies or means of the National Association. It may be well, therefore, to inaugurate a general plan of education of plumbers and of the public in respect to plumbers.

These three hints may suffice to start a line of thought:

1. **Hire an "instructor"** who is an expert in determining costs of doing plumbing and heating work; send him during the ensuing year to every local association contributing to the National Association, and let him **teach the members how to estimate on contract** work so as to make a profit; how to keep a close track of stock; how to know absolutely what it costs to do business.

2. **Hire the best man available** in the United States to prepare needed legislation:

(a) To insure uniform state and local examination and licensing of journeymen and master plumbers so that only competent men may engage in the business.

(b) To insure model plumbing codes suitable to

varying conditions, so that plumbing may only be constructed on right lines.

3. **Employ a competent person** to work out a uniform and satisfactory **apprenticeship system** which shall for all the future **provide an abundant supply of skilled labor.**

These three things, taken out of the hands of inefficient and inactive committees who year after year are appointed and, like the long row of "Do-Nothing-Kings" in France, pass out of existence, leaving the problems all unsolved, and placed in the hands of experts paid out of the bursting national treasury, will bring great benefits to a long-suffering business.

Jno. K. Allen.

Some Recent School Plumbing in St. Louis

We are fortunate in being able to present to our readers some illustrations and details of recent installations of plumbing in two typical St. Louis public schools, the Oak Hill school and the Rose Fanning school.

The present is an excellent time for the trade to consider the subject of school plumbing, as, during the long vacation, many reconstructions of plumbing work will take place in public school buildings, and it is important that members of the trade interested in this work should have before them examples of recent practice.

The large illustration on the opposite page shows the boys' toilet room in the Oak Hill school, giving an excellent idea of the single urinal of the type which has come to be called the "Board of Education" urinal, the arrangement of the water closet stalls, the circuit venting from the water closets, and the ventilation system by which the air is kept clean and sweet, and the covered supply pipes by which freezing will be prevented. This illustration (Fig. 1) also shows the excellent natural light with which this toilet room is supplied.

Figure 2 shows the single "Board of Education" pneumatic syphon ventilated glass urinals erected in the Oak Hill school. Figure 3 shows the double "Board of Education" pneumatic syphon ventilated glass urinal as installed in the Rose Fanning school.

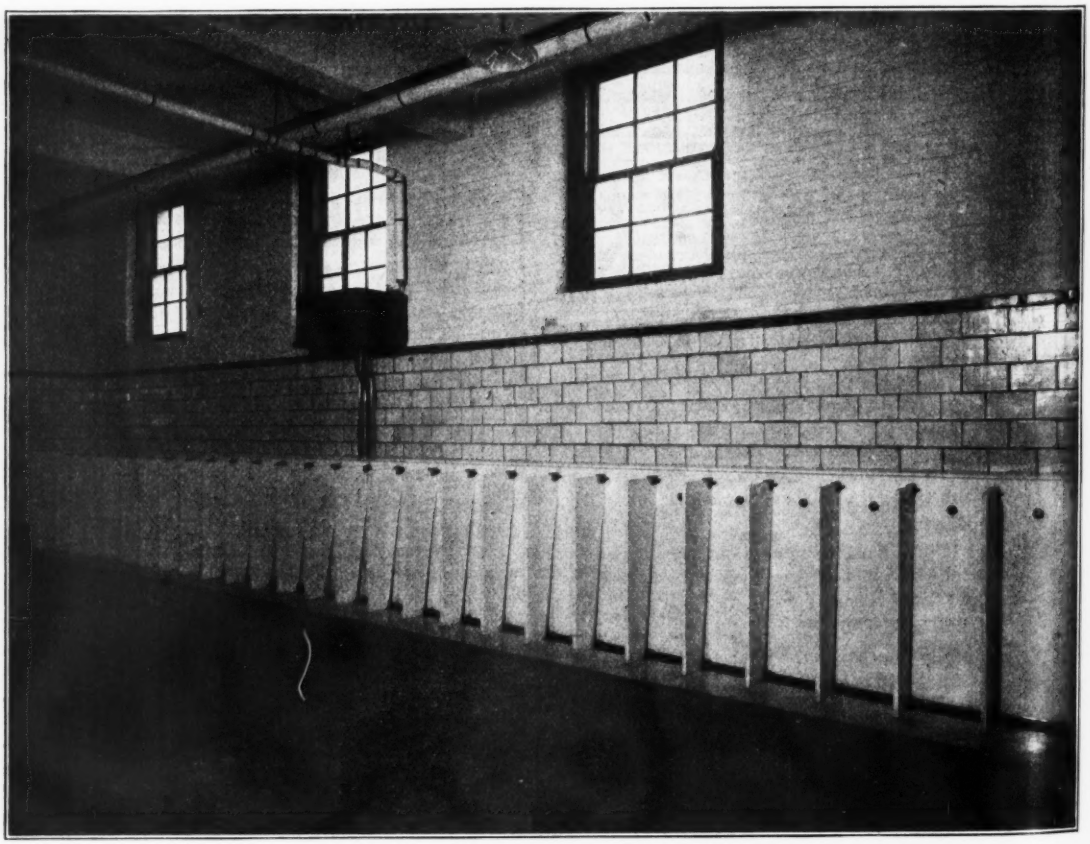


Fig. 2. "Board of Education" single pneumatic syphon ventilated glass urinal as installed in the Oak Hill school in St. Louis.

Fig. 1. Toilet room of the Oak Hill school in St. Louis, Mo. This plate is reproduced from "Domestic Engineering" of May 1, 1909, in order to give as complete an illustration as possible of this interesting system of school plumbing.

Figures 4, 5 and 6, represents details of the "Board of Education" pneumatic syphon ventilated glass urinal. Figure 7 represents the installation of automatic pressure tank closets in the Oak Hill school.

BOARD OF EDUCATION URINAL.

This particular type of urinal is the result of the personal work of John N. Barbee, Superintendent of Plumbing for the Board of Education of St. Louis. Concerning it Mr. Barbee points out what he considers the strong and essential features to be looked for in this type of fixture:

1. Method of ventilation.
2. Use of glass, which is a nonabsorbent material.
3. Reduction of all exposed metal parts to a minimum.
4. The arrangement of the intermediate partitions clear of back slabs except where secured, thus permitting a continuous sheet of water to wash back slab during flushing of tank, and eliminating all sharp angles.

The ventilation of the toilet rooms is through a ventilating pipe in connection with this urinal fixture, and about 700 cubic feet of fresh air per minute is supplied. This gives four or five complete changes of atmosphere per hour and the toilet rooms are generally as free from odor as any room in the school.

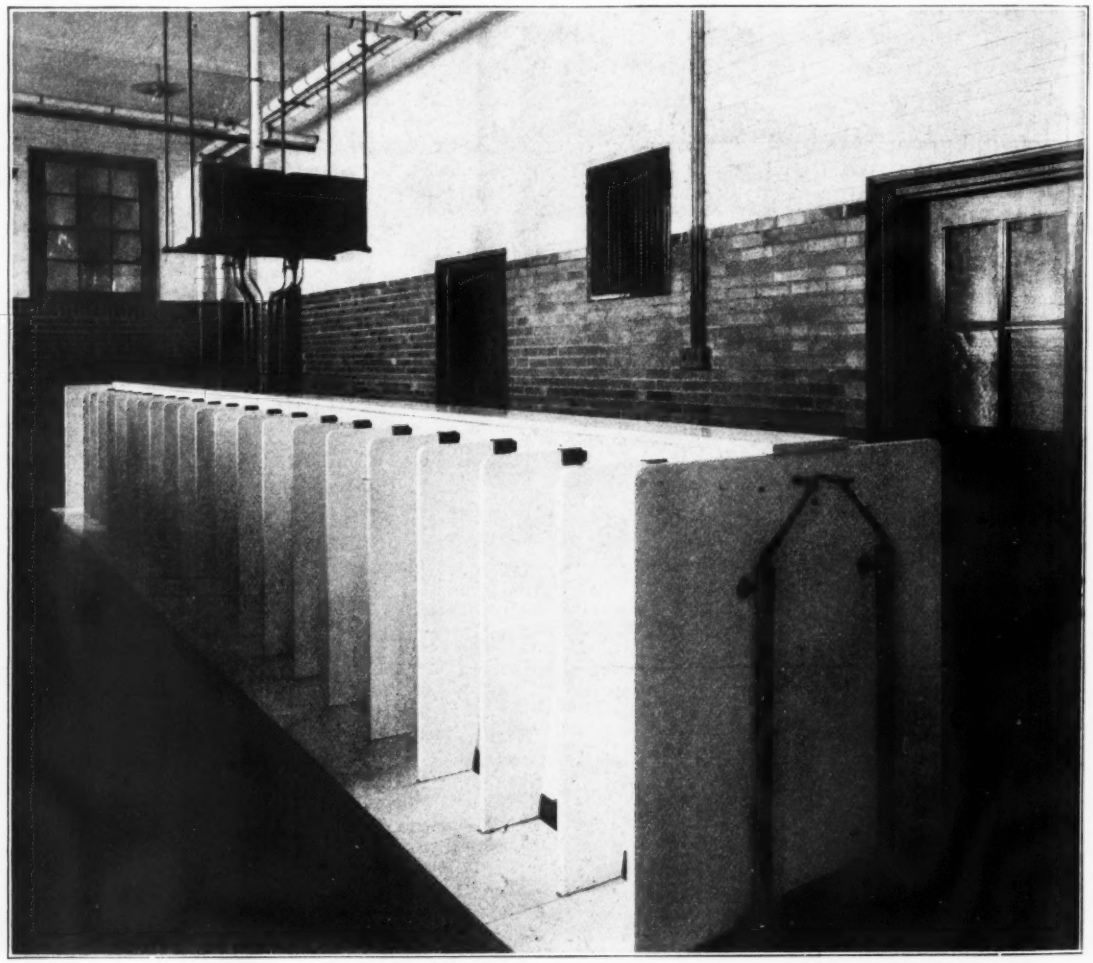


Fig. 3. "Board of Education" double pneumatic syphon ventilated glass urinal as installed in the Rose Fanning school in St. Louis, Mo.

We consider this urinal of sufficient interest to go very carefully into its construction and we therefore describe it freely:

It is constructed of Carrara glass. It has heavy

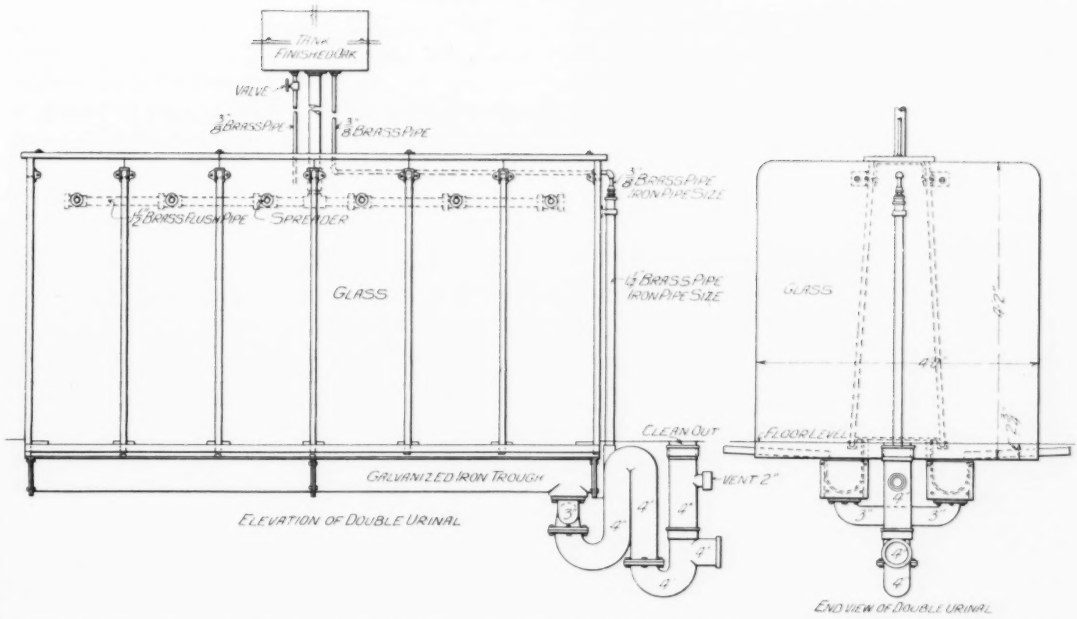


Fig. 4. Elevation and end view of double "Board of Education" pneumatic syphon ventilated glass urinal as installed in the St. Louis public schools.

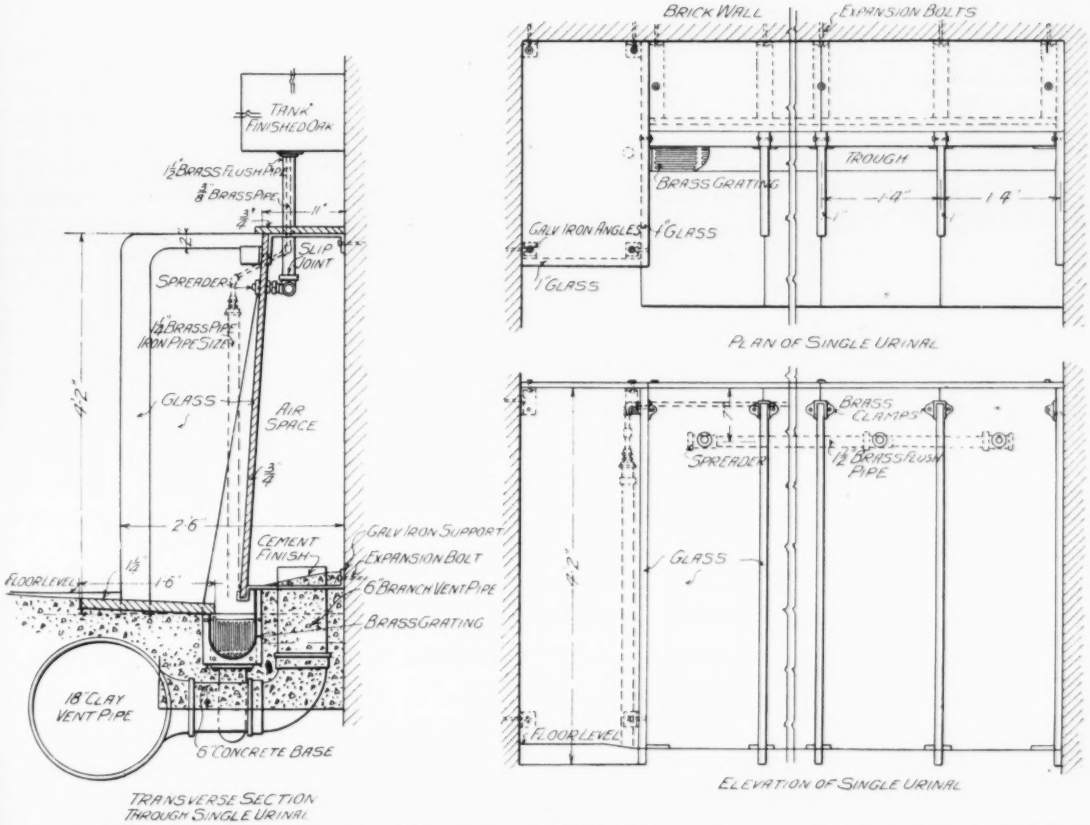


Fig. 5. Transverse, section, plan and elevation of single "Board of Education" pneumatic syphon ventilated glass urinal as installed in a public school of St. Louis, Mo.

galvanized iron gutters, each section bolted together with red lead and lead gaskets at joints. Each gutter has heavy brass removable grate over outlet

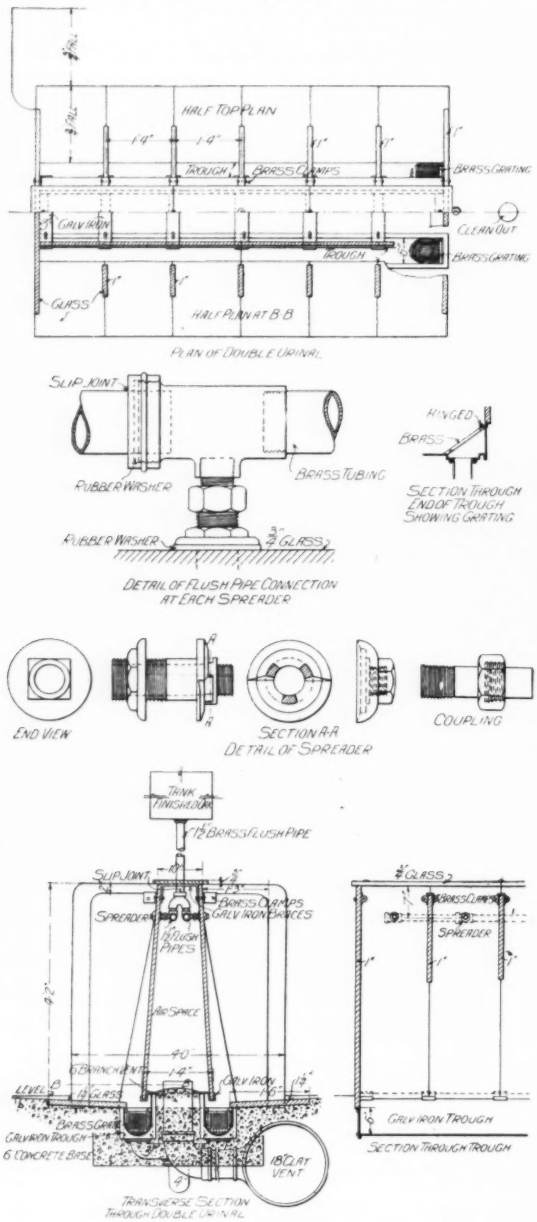


Fig. 6. Plan of double "Board of Education" pneumatic syphon ventilated glass urinal, with details of supply flush pipe connection at each spreader, details of spreaders, and transverse section of double "Board of Education" pneumatic syphon glass, ventilated urinal as installed in the public schools of St. Louis.

(See Figures 5 and 6). The gutters are set level and rest on a base of concrete 6" thick extending the full length and width of the urinal. Each urinal is supplied with 4" cast iron upper and lower traps (see Fig. 4) with flanges which are bolted together and to the gutter with red lead and lead gaskets at the joints. Traps are so arranged that each gutter will retain after each flushing a body of water not less than 3½" deep. Each stall has a brass water sprayer or spreader (see Fig. 6) connected to the flush pipe by means of a slip joint with rubber washer.

Each urinal has an automatic flushing tank of quarter sawed white oak 28"x18", with rounded bent wood corners, lined with 6 lb. lead with joints double lapped, seams soldered water tight and the lining bent over and tacked to the top of the tank. It has a top supply connection with combination weight float and pet cock valve with flushing pipes. It has cast brass syphon with air pipe connection. The tank has a ⅜" brass (iron pipe size) drain with Jenkins valve, brought down through cap piece of the urinal as shown in Figure 4. The tank is supported on hangers constructed of ¾" galvanized iron pipe secured through the concrete above with washers and nuts above the floor.

The flush pipe is of 1½" heavy brass tubing with heavy hexagon nuts and face joint couplings to the tank, and is carried through the cap piece and extends to the full length of the urinal as shown in Figure 4, and at each stall there is on the flush pipe a cast brass fitting to receive the water sprayer as shown in Figure 6; each fitting is connected to the flush pipe on one end by means of a screw thread joint and on the other end with a heavy hexagon nut and slip joint with rubber washer as shown in Figure 6.

The air pipe as shown in Figure 4 is to be of ⅜" brass (iron pipe size) with a heavy hexagon nut and face joint coupling at the tank, and is carried below the cap piece of the urinal through the end slab, and is connected to the upper trap with 1¼" brass pipe (iron pipe size) brought up to the height shown in Figure 4, where it is screwed to the end slab of the urinal with a heavy brass pipe clamp with flange. The supply is ¾" galvanized iron pipe with valve to shut it off. All of the exposed metal work in this urinal is of brass heavily nickel plated. The end of the battery of urinals is finished with glass as shown in Figure 3.

There are so many interesting details connected with this urinal construction that we earnestly advise a careful study of the detail sheets shown in Figures 4, 5, and 6. Figure 5 and Figure 6 show the 18" clay ventilating pipe which removes the

air from the toilet rooms through the urinal fixtures underneath the back slab and thus ventilates the room and the urinal at one operation.

It may be well to say that the double type of urinal as shown in Figure 3 has been abandoned and the single plan as shown in Figure 2 with urinal fixtures placed to the wall is now adopted.

The bowl is flushed by means of an automatic seat operating valve with union so that working parts of the valve may be removed without taking up the bowl. The valve is of the best material with springs of phosphor bronze and washers of virgin rubber. A spindle engages the seat attachment with a friction wheel at the front which reduces the wear to a

Fig. 7. Row of automatic pressure tank water closets as installed in the Oak Hill public school of St. Louis, Mo.

AUTOMATIC PRESSURE TANK CLOSETS.

Figure 7 (as well as Figure 1 on page 347) show the installation of automatic pressure tank closets. It is required that the bowl of this closet with the valve and seat, shall weigh not less than 60 lbs., the waterway must carry through under test a solid ball 2¼" in diameter, and the jet arm of the closet is to be concealed. The water service in the bowl must be not less than 7"x9" and the depth of the water seal shall not be less than 2½". The outside width of the bowl is to be not less than 13½" and the height from finished floor to the top of the bowl will be 14½".

minimum. The valves are provided with square head cleanout plugs at the end and ⅜" iron pipe size water supply inlet connection at the bottom of valve.

The seat is of quarter sawed white oak 1¼" thick, secretly doweled, with joints grooved, and a nickle plated cast brass reinforcing plate not less than 1" wide and ⅛" thick is placed around the under side and has a seat operating attachment with compensating set screw; the plate has two sockets fitted with heavy rubber mushroom bumpers at the front.

The tanks are to be of galvanized steel 8"x24",

riveted and soldered, and must have a guaranteed working pressure of 100 lbs; supported on galvanized cast iron shelf brackets secured to the wall with expansion bolts and secured at the top by galvanized fastening lug riveted to the tank and expansion bolt.

The flush pipes are of 1¼" galvanized wrought iron pipe with heavy brass hexagon nuts and face joint couplings to tank and automatic valve and are offset over vent pipe (see illustration on page 347) and secured to the wall with galvanized pipe holders with rubber bumpers. The water supply is of 1½" galvanized iron pipe with Jenkins valve to each closet and a ⅜" galvanized iron branch supply with loose key Jenkins globe valve to each closet.

For the photographs and detailed drawings and copy of the specifications of this interesting school plumbing, we are indebted to Edward Quinn, Supervisor of Plumbing for the city of St. Louis, and John N. Barbee, Superintendent of Plumbing for the Board of Education of St. Louis, Mo.

Steam Traps

By Phoenix.

Few people are informed in the uses, abuses and **purposes of a steam trap.** Not one fitter in ten knows how properly to connect a trap, or in what places it will or will not work; what it is supposed to accomplish or save; and so the bunch goes on year after year continuing **turning away another good source of income** which could be made very profitable.

There is a decided lack of direct information as to what a steam trap will do when applied to the common, everyday practices of general heating.

We will state two definite purposes for which steam traps could be used by any heating shop on thousands

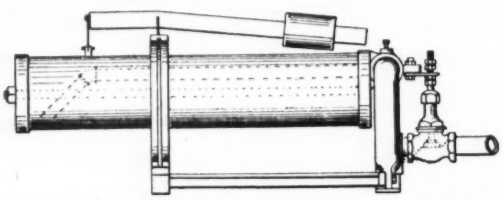


Fig. 25. One style of tilting trap filling with condensation.

of jobs, and where an ordinary fitter could install them after he once caught on.

There is not a town of one thousand inhabitants in the country containing any manufacturing industry in which from one to a dozen traps could not be sold—by "gumption" **and** a reasonable amount of effort.

The First Definite Use: A steam trap will elevate water of condensation to a tank located upon the roof of your house, store, barn, or business block. This gives a tank full of practically filtered water, after the job has been thoroughly cleaned out. It also gives a supply of water on hand in places where the water supply is shy, and also provides a tank of water for fire purposes. It can be made to force the water a long distance, if necessary while doing this. The writer knows a trap working successfully and forcing water through nearly **one-fifth** of a mile of pipe, before delivering the water into the tank.

Second Use: A steam trap will drain the condensation from a line of steam radiation that is **located below the water line of the boiler.** It can be made to do this and either waste the return water into a sewer, or to return the water **into the boiler** as may be desired according to the necessity of the occasion.

Now here are two definite uses for steam traps that the master of any small shop in the smallest town can not afford to ignore, and thousands of people would be glad to know how they could save more on their heating plants **or utilize hot return water now wasted.** Small manufacturers and small heating plants, laundries, etc., are people who would be glad of this information.

Definition.

A steam trap is an appliance for removing condensation from steam systems.

There are three general classes of traps, viz., **discharge traps, return traps** and **siphon,** or **water seal traps.**

The use of the last named variety is so unsatisfactory no further mention will be made of them. Return

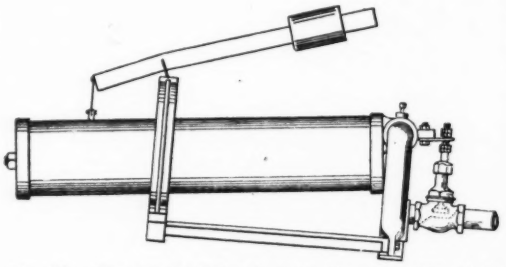


Fig. 26. The same tilting trap in the operation of discharging.

traps are used for the purpose of returning the water of condensation to the boiler. They may be also used for the purpose of lifting water into tanks. These traps have a live steam connection and some means of controlling the emptying of the trap, such as, a valve, a float, or perhaps the trap may be constructed so that it tilts. The steam is admitted to the trap to make the pressure within the trap equal to that of the boiler into which it discharges.

Discharge traps come under the head of those which permit the condensation to drain to a place where the pressure is lower than that upon the trap.

Among the different styles of discharge traps may be found float traps, bucket traps, expansion traps and some tilting traps.

Some traps are good, some bad, and some are worse than useless. Traps, several of which connected to a job requiring so much force to operate them that the

job will not get the proper amount of steam, are a costly proposition and such traps belong on the scrap heap. Suppose it is desired to place the condensation of a low pressure apparatus in a tank located on the roof. Use a return steam trap and be happy. This trap will elevate the water approximately two feet in height for every pound of pressure carried, **and needs no engineer to look after its working.**

The nearer we can come to the absolute elimination of the condensation, the greater the efficiency of the job. This efficiency can be increased greatly if the condensation can be returned, **hot,** to the boiler.

There are thousands of plants in the country, wasting many dollars each day from ignorance upon this subject, which the **master** neglects to furnish.

Were the people who are running these plants aware that, by using a good reliable steam trap, **they could return to the boiler all the heat not given off in the work, and at a small expense** (when compared to a steam pump) **the market for steam traps would increase.**

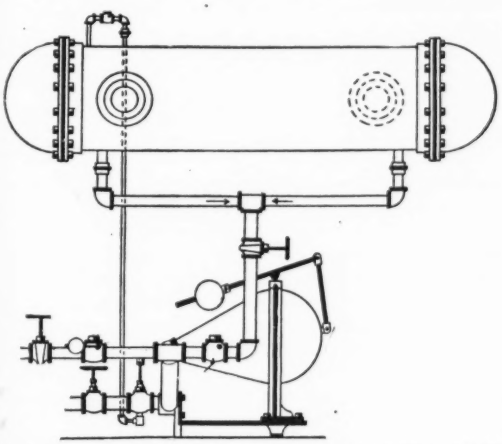


Fig. 27. Sketch showing tilting trap taking liquids from apparatus with less than atmospheric pressure.

Speaking in general terms, it can be said that the cost of running a pump and a steam trap compare about as follows: On a 100-horse power boiler, for instance, by experiment it has been proved that **a pump takes from two to six horse power to operate while feeding the boiler; while it has also been demonstrated that this work can be done with one-half a horse power by a trap.** The lesson is therefore very plain.

Steam traps may be applied to bleeders, steam separators, brewers' kettles, vacuum pans, clarifiers, scum tanks; to feeding boilers, draining vacuum tanks, and many other utilities.

These different appliances are found in some of the following places: Ice plants, dry kilns, cotton, woolen, and paper mills; sugar refineries; heat, power, and light plants; hotels, hospitals, and large institutions having a central heating plant; water works, lumber and cement manufacturers, collieries, potteries and dozens of other places.

From the foregoing it can be seen what a large field a person has to work in, and the many different lines that await a much greater amount of cultivation than has ever yet been put forth.

The pressure applied to steam traps to make them perform various duties varies, generally, from 0 to one hundred fifty pounds, according to the work it is desired to make the trap perform. In Figure 25 a modern tilting trap is shown in the position of filling with the condensation from a job.

This trap may be working under a pressure anywhere from five to eigthy pounds.

The beauty of the tilting trap is that it is easy to tell when it is in working order. "No tilt, no work."

Figure 26 shows the same trap tilted and in the operation of discharging its condensation.

In Figure 27 the water flows into the trap by gravity and when full the trap tilts, opening a valve for the admission of live steam which forces the contents from the trap to the point of discharge. When the trap is empty, the trap returns to filling position and thus permits an inflow from the vacuum chamber.

Factory Sanitation

By Edward H. Donahoe, Superintendent of Plumbing, Peoria, Ill.

I would suggest the following as suitable fixtures for use in a foundry building:

A Shower Room.

On the fifth floor, partition off a room 20 ft. wide and 30 ft. long with cement side walls and floor. Place three feet apart on the two side walls and on a slate partition in the center of the room, one combination bibb cock for hot and cold water, rubber hose and sprinkler, also shower head with stop cock, soap cup and towel hooks between the combination bibbs. This will give forty places for the men to wash all over, as most moulders do every day, giving a space of three feet for each man and four feet for an entrance between the spaces. This would average about six men to a space as some moulders get through before others in all foundries. It could be arranged that all would have access to the room in turn without much delay.

The floor could pitch to the waste outlets to be put in the floor where necessary, and be run into a catch basin where the heavy matter could be removed at any time. This room should be thoroughly washed out with a hose every evening. Provision should be made for a dressing room next to this room with a dry walk from the wash room with a place for the men to deposit wet towels as they go out.

The Toilet Rooms.

Next to this there should be a room twelve feet wide by thirty feet long for a toilet room, water closets and urinals. Water closets to be of the seat acting tank type with porcelain bowl not less than fifty-five pounds weight and syphonic action. The urinals to be of the pedestal type as Wolff's H 8651 and set out from the wall so as to be readily cleaned, with an automatic tank for each battery of two urinals.

At different points in the moulding room sinks and water taps could be arranged convenient for wetting sand, etc.

On the fourth floor I would suggest a toilet room for the men, with closets and urinals, and also one for the girls, with closets and wash basins. There could also be a battery of basins provided outside the toilet rooms for both the men and girls.

On the third floor a toilet room with a battery of basins outside the room, also some sinks, where necessary, should be provided.

On the second floor a toilet room for closets and urinals with a battery of basins outside, also provide a toilet room if found necessary for the office.

On the first and second floors a toilet room on the same order as the third floor in proportion to the men.

All of these toilet rooms should be so constructed to be thoroughly washed out every day or evening with a proper iron floor catch basin to catch all heavy matter.

Type of pedestal urinal for factory use recommended by Edward H. Donahoe, Superintendent of Plumbing, Peoria, Ill. It is plate H-8651 from the catalogue of the L. Wolff Mfg. Co.

It is not an easy matter to make suggestions in a case of this kind without a plan or a chance to consult with the owner or architect, and taking up the general conditions which makes a vast difference. Take the wash room for instance, by making this room thirty feet by thirty feet you could gain twenty more spaces to wash and might make a big difference in the way the building is planned. In all the other stories the water fixtures could be more scattered, accommodating the working people without much loss of time. It would be better if it could be arranged to have the main toilet rooms over one another and as compact as possible.

In planning the wash rooms for the accommodation of the moulders, I will state that while they get very black when working at the business of moulding, it is not the sticky, greasy black like many other mechanics and not so hard to remove.

Noises in Pipes

These suggestions as to causes of sound travel in water pipes, and their prevention, are sent in by our correspondents, all of whom—in this free masonry of sanitation—are glad to contribute from their stores of knowledge to the general fund:

Houston, Texas.—To the Editor of "Domestic Engineering." Sir: You don't state the amount of pressure, but under ordinary conditions, it is a difficult matter to eliminate all sound travel; but it ought to be possible to have a tank on the roof, all reductions made with easy gradations, avoid all bushings and use cocks with a good water way without contracted seats, and fasten all pipes to wood strips or some non-conducting material that will ground all sounds. I believe you would then have a job as nearly silent as possible.

Covering the pipe may help, but I am of the opinion that will not be as effective as you would expect. I may add to my other suggestion a liberal use of air chambers.

Jno. Hefferman,
City Sewer and Plumbing Inspector.

Washington, D. C.—To the Editor of "Domestic Engineering." Sir: Relative to hissing noise in water pipes in hotels when any faucet is open, I have to say that a remedy is hard to suggest without knowing all the facts in the case.

In the first place, it may be due to excessively high water pressure, if so a pressure regulator should be used.

If it occurs only when hot water faucets are used it may be due to very high temperature of water which if obtained from a hot water boiler, without thermostat control, which may generate steam; or very hot water which with air in pipes will create an annoying sound.

It may be due to loose parts of faucets or washers, fluctuating pressures, or lack of pressure in water mains, which may allow air to accumulate in pipes; or on account of small house supply and its inability to supply water at all times, and this will create a vacuum which must be relieved by emitting the air before water will flow.

A partial obstruction in water pipe, or water hammer, may be the cause, but it would be most difficult to assign a reason or to suggest a remedy without knowing the exact condition, and that could be done only by a careful inspection.

Yours very truly,
Henry B. Davis,
Chief Inspector of Plumbing, D. C.

A Boy With Brains.

A school board official called at the home of a pupil whose absence had extended over a week, and inquired of the lad's mother the cause.

"Why," she said, "he's past his thirteenth year, an' me an' his father think he's after having schooling enough."

"Schooling enough! Why, I did not finish my education until I was twenty-three."

"Be that so?" said the mother. "But that lad of ours has got brains."—New York Journal.

Questions and Answers

This Department is maintained for the use of every reader of "Domestic Engineering." We solicit problems from you and will give them our best attention. In stating your questions please give all of the facts as clearly as possible and when necessary accompany your question with a correct layout of the job.

THE LOW BIDDER.

166. **Boston, Mass.**—To the Editor of "Domestic Engineering." Sir: Your editorial on "The Low Bidder" in the issue of "Domestic Engineering" for May 15 is certainly to the point, as others of the past have been, and I take the liberty to express to you my hearty support in the doctrine you are trying so hard to instill into the members of our trade. I doubt if there is a section in the United States that is **so hard hit as New England** when it comes to the man in business (backed on the quiet by the supply house) and the fellow who gets business on account of being the lowest on the bid. We, being the oldest established plumbing firm in Boston, and possibly in New England, **stand out for the best there is and an honest profit along with a square deal** for all concerned, and have to take the word from owner and architect that **we are too high** on the bid, but they admit that our work is not behind any other house in the country.

This is not written in the spirit of blowing our own horn, but to let you know **others are giving this same subject serious consideration.**

J. Preston Perham, of Isaac Riley Company,
(Established 1836.)

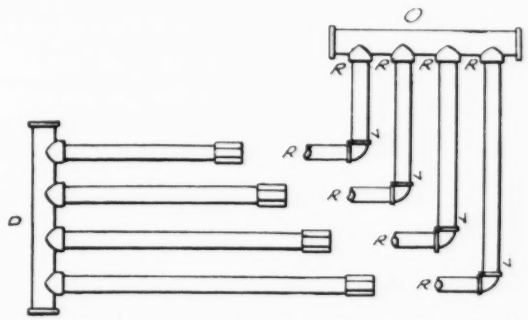
OAKUM.

162. **Memphis, Tenn.**—To the Editor of "Domestic Engineering." Sir: Will you be kind enough to tell me in the columns of your paper of what oakum is made? **R. B.**

Oakum is the coarse part separated from flax or hemp in hackling, the fibers of which are made to stick together by being moistened with pine tar. Oakum can be obtained either loose or twisted, and is shipped in bales.

DOES NOT AGREE WITH PHOENIX ON COIL BUILDING.

166, **Gloucester City, N. J.** To the Editor of "Domestic Engineering." Sir: I would be pleased to say a word on how to erect very long coils. If I were called on to erect a coil as per sketch page 140 "Domestic Engineering" for **May 1, 1909,** I would build it as follows: Start at manifold P and run with random lengths until within whatever distance those lengths would bring me without cutting; then I would take the center to center measurements of the manifold and cut each piece to same, say 2½ inches longer or shorter than each other, according to which you cut first, the No. 8 pipe or the No. 5 pipe; now I would put on the end of each of those pipes a right and left elbow with the left hand thread looking up to the manifold. Or then I would cut the pieces 1, 2, 3, 4 with one right and one left hand thread on each, then all the spring you have is to start the end of each piece in the elbow and set your manifold on top and make up each piece, little at a time, first one then the other. You will find to make a coil with right and left couplings in the center of the long run, you would have a hard job to start, as you would have to move one-half of the coil to enter each right and left. In building a coil of this kind I always try to pick out the lengths



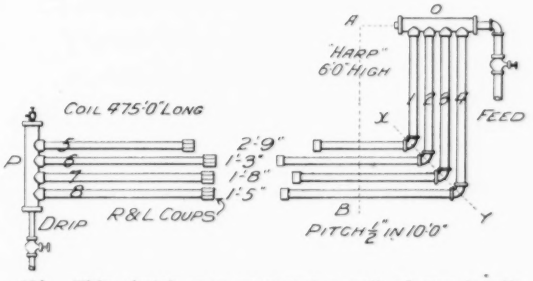
166. Sketch showing manner in which J. W. S. would erect heating coils.

so as to have them come as per my sketch, so as not to have the joints come directly over each other.

J. W. S.

Comment by Phoenix.

We republish the sketch called in question. The length of the pipes 1, 2, 3 and 4 were only mildly stated. In many instances these harps are from eight to twelve feet high, and we believe that "J. W. S." in his method would have poor success in monkeying with a vertical pipe from six to possibly twelve feet in length with a right hand thread on one end and a



166. This sketch may represent a coil of any length, from 100 to 1,000 feet, erected as recommended by Phoenix.

left hand thread on the other. It is not at all difficult to catch the short pieces, 2' 9", 1' 3", etc., as shown in our sketch, as there is plenty of spring in the coil described, and the pipes can be snapped out of the hangers and be made to assume almost any position necessary to catch the right and left. The right and left ells he would use are about the meanest thing ever invented, and generally about half of them come tapped out crooked, which, added to the same defect in the header, makes the job of connecting as he describes as his way most difficult. The middle connection, or at least 20 or 30 feet from the header, and a horizontal connection, is much easier and more practical.

Master Steam and Hot Water Fitters Meet at Niagara Falls, N. Y.

The Twenty-First Annual Convention of the National Association of Master Steam and Hot Water Fitters at the International Hotel, Niagara Falls, N. Y., June 14-17, 1909.

Niagara Falls, N. Y., June 14.—(Special.)—Near the side of the mighty **"Thunder of Waters"** in this Nature's own greatest convention city, but a step from the great Falls of the Niagara, the twenty-first annual meeting of the National Association of Master Steam and Hot Water Fitters was held in the convention hall of the International Hotel.

Monday, June 14.

Promptly at 11:45 o'clock in the morning **President of the Association John T. Sadler** of Elmira, N. Y., **rapped for order.** The calling of the roll was dispensed with, and after a few remarks the president appointed the following **Committee on Credentials:** A. E. Kendrick, Brookline, Mass.; J. O. Keefe, New York, N. Y.; W. A. Lawson, Newark, N. J.; L. J. Holser, Pontiac, Mich.; John C. F. Trachsel, Philadelphia, Pa.

The convention then adjourned until 10 o'clock on Tuesday morning.

The Committee on Trade Relations held three meetings during the day, at 11, 3 and at 8 p. m.

The Board of Directors held a meeting at 3 o'clock in the afternoon.

Both these committees will report on Tuesday morning.

Tuesday Morning, June 15, 1909.

The meeting was called to order in open session at 10:30 a. m. by **President Sadler,** after which he introduced **the Hon. O. W. Cutler,** ex-mayor of Niagara Falls, who reviewed briefly the conditions of Niagara Falls and welcomed the association to the city.

Pres. Sadler then introduced the Hon. John S. Simmons, Congressman from this district, who, in the unavoidable absence of Mayor Douglass, was selected to address the convention.

Congressman Simmons believed that, as practical men, Niagara Falls should interest every delegate present, as it possessed a double interest, the beautiful scenery and also stood as the greatest development of electrical power in the world, amounting to some 300,000 horse power.

He stated that the great natural beauty of the Falls had not been destroyed, and to prove to how small an extent the water had been lowered a practical demonstration had been given some time since, all the power plants being shut down and measurements taken. It was found that the test showed 1 1-10 inch reduction.

Congressman Simmons expects to see Niagara Falls become one of the greatest industrial centers in the world. He congratulated the association upon its many and able members and upon its standing in the business fields. He is himself owner of much property in the Falls and stated that practical experience had taught him not always to let the heating contract go to the **lowest bidder,** but rather to put the contract **into safe hands,** and concluded by warmly welcoming all visitors and delegates to Niagara Falls.

In response President Sadler expressed his appreciation of this speech of welcome and said that he wished more men like Congressman Simmons were around—especially when steam heating contracts were let, which produced an audible and continuous approbation from the convention.

The Credential Committee, consisting of Messrs. Kenrick, O'Keefe, Lawson, Holser and Trachsel, then rendered its report which showed that 292 delegates were entitled to seats in the convention.

President Sadler's Address.

President Sadler then read his annual address as follows:

"Gentlemen:—It affords me great pleasure to greet you again and to welcome you to this Twenty-first Annual Convention of our Association. And I know that you will join me in extending a hearty welcome to our guests, the ladies; and to the manufacturers and dealers, as well as to those who may join our association at this time or in the near future in the efforts we are making in the direction of improving the conditions of our business, and the bringing about of more friendly relations between ourselves and those from whom we purchase material.

"In my address to the Convention, last year, I said: **'Knowing as we do what so many conventions have accomplished in the past, it is with utmost confidence that we gather upon this occasion, believing that the outcome of our deliberations will result in doing something that will be for the best interests of our trade.' That confidence was well placed. We DID accomplish something that has been of interest to our trade; and you will be advised thereof in a later session of this convention.**

"At this time, however, it can be said that **progress has been made by our Committee on Standardization, and by our Committee on Trade Relations, while the Board of Directors has, in its way, also made progress.**

"The membership of the association has held up well in spite of the depression in business.

"Local associations have been formed; state associations have been strengthened, and **an organization, known as the 'Master Steam and Hot Water Fitters' Association of the South Atlantic States,' has been perfected,** the present members being located in Virginia, North Carolina and Georgia, and with prospective members to come from Florida. Details concerning this acquisition to our ranks will be given you through the Secretary's report.

"I recommend that action similar to that of our friends in the South Atlantic States be taken in sections of the country where it is impracticable for local associations to be formed, and where single States do not have within their border a sufficient number of those whom we consider eligible to membership neces-

sary to bring about the formation of a State association.

"While we have had a few complaints this year of the violation of our Trade Resolutions, and upon which action was taken by the Board of Directors, there have not been as many as we have had in previous years. This, we believe, is owing to the fact that manufacturers and dealers have a much better understanding of our Trade Resolutions, and of the value of maintaining them. I heartily recommend that members keep before them the list in Accord: consult the List frequently; don't hesitate to purchase the materials you require from those who value our Association motto: 'Who Helps Me, I Help.'

"There is a duty that members owe to themselves as well as to the association, and by faithfully living up to the principles for which we stand, we are better enabled to do business with our friends on an equitable basis, and your officers and board of directors and committees are better able to accomplish those things which are desirable and for the best interest of all of us.

"In other words, if we are loyal to ourselves, we are loyal to the Association. Therefore loyalty is the key to the whole situation.

"I wish to make known to the members the great satisfaction that is felt in the influence now exerted by our 'Official Bulletin.' Communications received at national headquarters from all parts of the country, from all sorts of people, testify to the help it has been to those who look to us for guidance on matters of interest to the trade we represent.

"In former years you have heard of its material growth and influence and have been told how its power could be felt if you faithfully performed your duty to your association in a way that needs no explanation at this time. It is undoubtedly in order to now recommend that your copy of the "Official Bulletin" be kept in a conspicuous place. 'Hang it up,' having it within range of the eyes of those who call on you, and let it be of good cheer to such as are in accord, while to the ones who are not on the List, let it act as the sign posts sometimes seen at railway crossings upon which are the words—'Stop!' 'Look!' 'Listen!'

"The Board of Directors' report will give details covering last year's work of the Board under the supervision of Mr. E. B. Denny, its very capable chairman.

"The report of the Committee of Trade Relations, which will be presented by its worthy chairman, Mr. P. Gormly, is of such importance and value that I especially recommend that all members be in their places at this convention when the report is presented.

"The report of our Treasurer, which was very satisfactory last year, being the best one ever presented, will be even more so at this time, and this in spite of the depression that we have been passing through.

"The Secretary's report will also contain items of very great interest to members.

"You will note therein that there has been a large amount of work done in the way of strengthening State and Local associations, also in organizing new ones, which has necessitated traveling many thousands of miles during the past fiscal year.

"I wish to tender my thanks to the officers and committees, who have performed duties and carried on work, the character of which is well understood and appreciated by me, and the value thereof should not be underestimated by members of the association.

"I feel grateful to the members who have been loyal and who have sustained me in my efforts to discharge the duties placed upon me during the two terms of my administration, and in closing I bespeak the same, or even greater amount of support for the one you will honor by choosing as my successor. Yours most fraternally,

"(Signed) **John T. Sadler,**
President."

John T. Sadler, of Elmira, N. Y.
Retiring President of the National Association of Master Steam and Hot Water Fitters.

Treasurer Baldwin's Report.

Treasurer Wm. J. Baldwin, Jr., at this point **submitted his annual report,** which was in full as follows:

"To Officers and Members of the National Association of Master Steam and Hot Water Fitters in Convention assembled:

"Gentlemen:—Your Treasurer respectfully submits the following report:

"Cash on hand May 1, 1908.....	$ 9,048.42
"Receipts May 1, 1908, to May 1, 1909	13,902.88
"Making a total of.....	$22,951.30
"Expended May 1, 1908, to May 1, 1909.....	12,732.78
"Cash balance May 1, 1909.....	$10,218.52

"Respectfully submitted,
"(Signed) **Wm. J. Baldwin, Jr.,**
Treasurer."

Secretary Gombers' Report.

Secretary Henry B. Gombers thereupon read his annual report which was in part as follows:

"To Officers and Members of the National Association

of Master Steam and Hot Water Fitters, in Convention assembled:

"Gentlemen:—A provision of the By-Laws of the Association calls for a report from the Secretary. This, in the early period of the life of the organization, contemplated a rehearsal of the doings of the Secretary, referring particularly to his travels and conferences with manufacturers and dealers or others upon matters that were of interest, and upon which it was necessary to make a report direct to the convention.

"To attempt to rehearse the many conferences held with manufacturers and dealers would mean many hours' work in preparing even the purport thereof for transmission to you, and it would also mean that you would be called upon to exhibit a large amount of patience while listening to what would not be altogether necessary for you to hear for the reason that what **you** desire to have placed in your possession is **a report of net results,** and such reports will be made by the Board of Directors, by the Committee on Trade Relations, by the Committee on Standardization, and by such of the other officers as will have messages to deliver.

"Your Secretary has varied duties to perform under the direction of the several officers and committees in charge of the different departments under which the work of the Association is conducted, and it is but natural to expect that he will not include in his report the details of his services in that direction.

"It will be impracticable to incorporate in this report all the conferences had with members and with those who have been interviewed upon the subject of becoming members, and it would be practically impossible, at least it would be undesirable, to read to you the correspondence upon this subject carried on during the past year.

"The records at national headquarters can be referred to as the diary of the Secretary, because there will be found letters received and answered; copies of a much larger number written by him, but to which no replies have been received; documents of various descriptions; contracts and all sorts of papers that go to show that the headquarters which the Association maintains is generally a busy place, and the past year has not been any exception, even though the general business of the country has fallen off some. The correspondence carried on has been larger than usual, and without considering in any way the communications received by members of committees and officers of the Association, other than the Secretary, it can be reported that there have been received during the fiscal year from May 1, 1908, to May 1, 1909, 2,577 letters.

"Catalogues, circulars, magazines and trade papers are not included in this statement, nor have we included bills or invoices.

"When it comes to the first class mail we have sent out it makes a considerable number of pieces.

"General business letters number 3,232, while special letters, circular letters, invoices and notices number 23,315, making a total of 26,547 pieces all going as first-class mail. Copies of Standard Flange Schedules, Uniform Contract Blanks, Official Bulletins, copies of sketch, "The Successful Bidder," and all sorts of second, third and fourth class matter we do not include in foregoing statistics.

"You may be interested in the fact that at the Thirteenth Annual Convention, held in 1901, in this city, in this hotel, and in this very room, it was reported that during the fiscal year, 1900-1901, 1,231 letters were received, while the pieces of first-class mail sent out numbered 5,330.

"Note the difference:

"1900-1901, letters received..... 1,231
"1908-1909, letters received..... 2,577

"An increase of 1,346
"1900-1901, first-class mail sent out..... 5,330 pieces
"1908-1909, first-class mail sent out.....26,547 pieces

"An increase of.....21,217 pieces

"Members will be able to draw their own conclusions as to the necessity of their promptly responding to all communications from headquarters, especially upon matters that are before the Board of Directors or in the hands of committees to be considered or acted upon in the interest of the members.

"Membership.—Part of this report, pertaining to membership of the Association, covers the fiscal year from May 1, 1908, to May 1, 1909, as the annual reports are made up to and include April 30, 1909, at which time the books were closed.

"From May 1, 1908, to May 1, 1909, there were added to the membership roll 54 members. The new membership is distributed as follows: Connecticut, 1; District of Columbia, 1; Indiana, 7; Maryland, 1; Massachusetts, 7; Michigan, 5; Minnesota, 1; Nebraska, 1; New Hampshire, 1; New Jersey, 1; New York, 3; North Carolina, 2; North Dakota, 12; Pennsylvania, 7; South Carolina, 1; Virginia, 3.

* * * * * * * *

"The causes for which members have been dropped between conventions are as follows: Failed or gone out of business, dropped by local associations, suspended for non-payment of dues, resigned leaving dues unpaid, and resigned in good standing.

"You will notice that the members who failed or went out of business and those who were suspended for non-payment of dues number exactly the net loss.

* * * * * * * *

"Complaints.—We have on file at national headquarters data referring to complaints made against manufacturers and dealers for the commission of acts considered detrimental to the best interests of our members.

"It would be impracticable, as well as tiresome perhaps, at this time to enumerate the complaints that have been investigated and passed upon during the past year. The data referring to the complaints in question we have with us, and if it is the desire of the members during the convention to inquire or know anything about any particular case we can readily acquaint you with the facts thereof.

"We have on file at national headquarters data concerning complaints lodged as far back as November, 1894, and other data referring to all complaints made in the interim.

* * * * * * * *

"List in Accord.—During the past year there have been added to the List the names of 12 concerns, to-

gether with the addresses of 10 branches, making a total of 22.

* * * * * * * *

"Official Bulletin.

* * * * * * * *

"How many of you really understand the power and influence possessed by it? How many of you are helping to make it an interesting and instructive medium through which to reach those who sooner or later will recognize the privilege it is to be a member of this Association?

"These questions are not querulous, but are put in order to bring straight home to you the absolute necessity of doing whatever you can to put the publication in the place where it belongs—up among the first-class journals.

"At each convention for many years past you have been invited to contribute articles for publication in its columns. There surely are men in this very intelligent body who are capable of producing a good article on heating and ventilating subjects, and if such articles are published as coming from those who know a hearty reception awaits them.

"We desire to acknowledge our indebtedness to the members who have furnished us with news items and with suggestions. One loyal and interested member was responsible for the publication of the sketch, "The Successful Bidder," which has caused so much favorable comment. We have furnished copies to members and non-members in cities and towns from Maine to California, from North Dakota to Florida, and one association ordered and received from us 300 copies of the sketch to place in possession of its members who are engaged in a line of business other than ours.

"Send us any sketches, cartoons, prose or poetry that you think interesting or instructive and let us feel that you **do take an interest in your own property.**

* * * * * * * *

"This report would be incomplete if it did not include an expression of appreciation of the manner in which your Secretary has been sustained and encouraged in his work by the other officers and Board of Directors.

"The relations that have existed between us have been most pleasant, and without wishing in any way to draw comparisons, or to make distinctions, it is but true to say that the year just passed will stand out as being one of the most satisfactory of the entire term of years that the present incumbent of the office of Secretary has served, being almost two-thirds of the life of this association.

* * * * * * * *

"There is due from you as a body, and as individual members, that loyal support which you are so capable of giving. Let there then be in the hearts of each one present, and in the hearts of those to whom these words may go, that feeling of earnest willingness to do in any way possible those things that will redound to the credit of this association.

"Be proud of your membership and continually fly the motto of the association, 'Who Helps Me I Help.'

"May the coming year bring the measure of success to which the association is entitled, and may abundant prosperity be enjoyed by it and by each individual member. Respectfully submitted,

"(Signed) **Henry B. Gombers,**
Secretary.

Report of Board of Directors.

The report of the Board of Directors was thereupon read and it was in part as follows:

"To the Members of the National Association of Master Steam and Hot Water Fitters, in Convention assembled:

"Gentlemen:—The year that draws to a close with this Twenty-first Annual Convention of our Association is one that will be long remembered for its phenomenal dullness in our business and the struggle most of us have had to make our reduced profits equal our necessary expenses; and yet, notwithstanding the 'hard times' through which we have passed, it is with much gratification that the Board of Directors is enabled to report **'progress' in all departments of our Association work.**

"In finances, **the detail report of our Treasurer will show that our fiscal year was closed with the largest surplus we have ever had in our treasury.**

"Our Secretary's report will show that nearly all the members dropped from the roll during the past year were among the 'deadwood,' while those added during the year **are live, active business concerns.**

* * * * * * * *

"A careful analysis shows that the purchasing power of our membership was never greater than at the present time, and the elimination of the dead heads has greatly raised the average quality.

"Organization of the Board of Directors.—At the first meeting of the board, held at Hotel Brunswick, Boston, June 17, 1908, seven of the members being present, an organization was effected by the election of Edward B. Denny as chairman and the re-election of Henry B. Gombers secretary.

"At this meeting it was decided that three full meetings should be held during the year, viz., in October, January and April, at which all the members should try to be present, and that as many as possible should be present at the regular monthly meetings. The plan has worked well, nearly every meeting having as many as five members present and several meetings being attended by all the members except one.

"A large amount of business has been attended to at these meetings, consisting of the hearing, investigating and adjusting of complaints, examination of monthly financial statements, correction of roll of members, passing upon matter offered for advertising in the Bulletin, considering the work of the Committee on Trade Relations, passing upon applications for a place on our Accord List, devising measures for securing separate bids in government contracts, determining ways and means for strengthening our membership, and many details connected with the care and growth of the association.

"Surety Bonds.—The surety bonds for Treasurer and Secretary, as demanded by our constitution, were duly executed and delivered.

* * * * * * * *

"Trade Resolutions.—In the matter of complaints for violation of Trade Resolutions the report of the

Secretary will show a considerable falling off from the previous year.

"This is due, in large measure, to the practice which we have preached and fostered of Local and State Associations first considering and trying to adjust such complaints, sending up to the national board only such as they may be enabled to deal with or requiring drastic treatment.

"The complaints that have reached us have been handled promptly and firmly, and there is a growing respect for the reserve power of our association among the manufacturers and dealers.

"Separating, Heating and Ventilating Work.—We have given considerable time and thought to the effort to induce the several departments of the United States government to separate the heating and ventilating from the general contract in all new construction under their control. Several interviews have been had with influential officials of the government and the seed sown is already bearing fruit, such separations having been made recently in the specifications for several large buildings.

"We have also interested some of the State Associations on these lines, and in many places petitions are being signed by Master Steam Fitters generally and urged upon the attention and consideration of State and Municipal authorities.

* * * * * * * *

"Standardization.—The report of the Committee on Standardization has not been presented to the Board of Directors.

"This committee, unlike other committees, having been appointed by the association in convention, will doubtless make its report directly to the association.

"The board, however, have been greatly interested in the work of this committee and has known somewhat of its progress through conferences with its chairman. The importance of the work of a Committee on Standardization and the probability that such work will be required for many years to come leads us to recommend that it be made a regular standing committee of the association, to be appointed in a manner similar to the Committee on Trade Relations and having the same relations to the Board of Directors.

"Trade Relations.—The report of the Committee on Trade Relations will be read to you by the chairman of that committee by request of the Board of Directors, by whom it has been approved.

"The board will call attention to the arduous work done by this committee during the year. Very much valuable time and thought has been given to the special work committed to it by the association at its last convention. The handling of the intricate and important subject of vacuum heating systems has required much investigation and consultation, occupying many hours of many days on the part of its members.

* * * * * * * *

"Among the problems that confront us at this time are:

"First: How shall we secure an **increased number of desirable members?**

"Second: How shall we secure **a more faithful observance of Trade Resolutions by manufacturers and dealers?**

"Third: How shall we **meet the rapidly growing menace of the 'General Contractor'?**

"The Board of Directors would bring these questions before the convention with the hope that they will be fully dealt with by your committees and such action taken as will be helpful to all our members. Respectfully submitted,

"Board of Directors.

"(Signed) Edward B. Denny Chairman; Wm. J. Baldwin, Jr., John T. Bradley, James F. Buerkel, Charles A. Geoghegan, James M. Healy, John T. Sadler, George H. Zellers."

The following committees were thereupon **appointed:**

Nominating Committee: A. E. Kenrick, P. F. Magin, U. G. Scollay, F. B. Crier and J. F. Burtell.

Auditing Committee: J. A. Almer, U. G. Scollay and W. A. Lawson.

Appeals and Grievances: W. T. Smallman, J. A. Diggle and J. E. Rutzler.

Ways and Means, and Good of Order: S. A. Jellett , Sam'l Wright and J. O'Donnell.

Constitution and By-Laws: Wm. H. Oaks, J. W. Danforth, Robt. Berla.

The convention at this point arose and **went into executive session.**

Wednesday Morning.

The convention assembled promptly at 10 a. m. for the business session behind closed doors.

Report of the Committee on Ways and Means.

The report of the committee on ways and means was then read in part as follows:

* * *

"We make to the association, as the result of our conference on these matters, the following recommendations: * * *

"Fourth: The matter of **meeting the rapidly growing menace of the general contractor,** referred to in the report of the Board of Directors, is largely covered by our recommendations on the question of separating heating and ventilating work from the general contract. But we would add, further, that if our members and other Master Fitters, not members, would decline to allow themselves to be used or traded upon by general contractors, there would be less complaint to make, if the local associations would get together and determine upon some set of regulations under which they would be willing to bid to general contractors, we believe it would go a long way toward helping the situation. Make the submission of a bid to a general contractor on the condition that if your bid is the lowest, and he is successful, you are to be awarded the contract; and if he declines to agree to any such conditions, then we believe that if reputable Master Fitters would refuse to submit bids to such general contractor, it would go a long way toward curing any complaints. Concerted action by our members in localities where we have a sufficient number of members would do a great deal toward straightening out the present complaints, but unless our members are willing to help themselves, standing unitedly against impositions of this kind, the abuse is likely to continue. The real cure for it is that covered in our first recommendation, to separate heating and ventilat-

ing work from the general contract so that we will be direct contractors on our branch of the business instead of sub-contractors under any one.

* * *

"**Standardization Committee:** Your committee on Ways and Means and Good of the Order would approve the recommendation of the Standardization Committee, and suggest that our committee get in communication with the Committee of the American Society of Mechanical Engineers and the American Society of Heating and Ventilating Engineers, and endeavor to have the three committees join in one common standard for fittings of all classes; and that, having reached an agreement standardizing the various fittings, the joint committees endeavor through their various societies and associations to reach some one or two prominent manufacturers and try to have them agree to adopt these standards provided our members give them sufficient business to warrant their going to the expense of changing the patterns. We believe by concentration of orders from our membership generally to one or two such manufacturers, it would not be long before other manufacturers would find it a profitable thing to meet the recommendations of these three committees on standardization.

We would also suggest to the Standardization Committee that if an agreement is reached on the standardizing of house heating boilers, that information be communicated to our members as soon as possible after such agreement is reached.

"We trust that the outcome of these recommendations and the discussions on the varioust reports and suggestions will inure to the benefit of the Association at large. Respectfully submitted,

"(Signed) Stewart A. Jellett, Chairman; John O'Donnell, Samuel Wright."

Officers Elected.

At this session the following officers were elected for the ensuing year:

President, Chas. A. Geoghegan of New York.
Vice-President, Edward B. Denny of New York.
Treasurer, J. A. Almirall of New York.
Secretary, H. B. Gombers of New York.

Board of Directors.

J. T. Sadler of Elmira, N. Y.

Delegates, their ladies and guests, attending the twenty-first annual convention of the National Association of Master Steam and Hot Water Fitters, held at Niagara Falls, N. Y., June 14-17, 1909. From photograph taken Wednesday afternoon, at three o'clock.

J. T. Bradley of St. Louis, Mo.
P. F. Magum of Pittsburg, Pa.
W. H. Oakes of Boston, Mass.
N. P. Bishop of New Haven, Conn.

Sergeant-at-Arms, John C. F. Traschel of Philadelphia.

The President, Vice-President and Treasurer also act as members of the Board of Directors in accordance with the constitution of the association.

Wednesday Afternoon.

Upon the return of the delegates and visitors **from the "Gorge Ride," the formal installation of the newly elected officers took place** in the assembly hall.

Installation of Officers.

The pleasure of delivering the welcoming address to each of the newly elected officers was conferred upon

E. G. Smith, who in timely and witty remarks introduced each officer to the assembled body.

Votes of Thanks.

It was then moved and seconded that a rising vote of thanks be tendered each of the following, the retiring officers, the various committees, the ladies, the press, the International Hotel, and last and by no means least, Col. L. W. Cutler, Chairman of the Board

Charles A. Geoghegan, of New York City.
President-Elect of the National Association of Master Steam and Hot Water Fitters.

of Conventions, for his individual interest and most earnest efforts toward making the convention's entertainments a success.

It was then moved and seconded that **the convention adjourn sine die.**

Meeting of Board of Directors.

At a meeting of the newly elected Board of Directors, held later in the evening, **Edward B. Denny** of Newark, N. J., **was elected chairman,** and **H. B. Gombers** of New York City, **was appointed secretary for the fourteenth time.**

Delegates and Guests in Attendance.

The following is **the register** list of delegates and guests attending the convention:

Henry B. Gombers, New York City.
Mrs. Henry B. Gombers, New York City.
W. G. Le Compte, New York City.
Edward B. Denny, Newark, N. J.
Frank K. Chew, New York City.
Mr. and Mrs. W. T. Oakes, Boston.
Alfred E. Kendrick, Brookline, Mass
Geo. H. Zellers, Washington, D. C.
Joseph Graham, New York City.
Herbert A. Joslin, Boston.
Mr. and Mrs. Frank Dobson, New York City.
Mr. and Mrs. Lewis Moore, New York City.
Chas. A. Geoghegan, New York City.
Mr. and Mrs. W. J. Olvany.
Mr. and Mrs. Rinkerberger, Brooklyn.
Mr. and Mrs. P. H. Pinder, New York City.
Mr. and Mrs. Sellers, Philadelphia.
Mr. and Mrs. J. B. Teehins, Lynn, Mass.
Mr. and Mrs. J. T. Bradley, St. Louis, Mo.
Mrs. J. H. Rosene, St Louis, Mo.
Miss Julia Denny, Newark, N. J.
J. A. Diggle, Indianapolis, Ind.
John O'Donnell, Evansville, Ind.
Wm. C. Vrooman, Schenectady, N. Y.
Mr. and Mrs. John T. Sadler, Elmira, N. Y.
John P. Gallivan, Boston.
W. T. Smallman, Boston.
F. J. Pierce, Cleveland.
John F. Hale, Chicago.
U. G. Scollay, New York City.
Robt. Berla, Newark, N. J.
J. Barton Garfield, New York City.
C. A. Miller, New York City.
P. H. Smith, New York City.
Conrad Kilevitz, New York City.
John M. Danforth, Buffalo.
John D. Stetler, New York City.
Albert H. Spear, New York City.
B. C. Johnston, Elmira, N. Y.
Peter P. Wolff, Chicago.
L. J. Holser, Pontiac, Mich.
F. J. Lennox, New York City.
J. F. Siegel, Chicago.
P. Gormly, Philadelphia.
John C. F. Trachsel, Philadelphia.
Edwin C. Evans, Syracuse, N. Y.
M. E. Danforth, Washington, D. C.
G. H. Chasmar, Washington, D. C.
Arthur McGouagh, New York City.
Mr. and Mrs. Frank Havery, Syracuse, N. Y.
A. B. Milmer, Buffalo, N. Y.
J. A. Almirall, New York City.
Herbert Self, New York City.
F. J. Corbett, New York City.
F. M. Boyker, Boston.
Frank C. Reeder, Knoxville, Tenn.
F. P. Keeney, Chicago.
C. H. Denison, Chicago.
W. G. McCormick, New York City.
A. L. Armagnac, New York City.
Mrs. A. L. Armagnac, New York City.
Geo. T. Coppins, Boston.
Miss M. C. Sumner, Pittsburg.
P. F. Maginn, Pittsburg.
Mr. and Mrs. W. M. Whitlock, Newark, N. J
W. A. Lawson, Newark, N. J.
E. M. Nichols, Philadelphia, Pa.
F. B. Crier, Newark, N. J.
A. C. Eynon, Canton, Ohio.
H. P. Cahill, Akron, Ohio.
Mr. and Mrs. J. E. Rutzler, New York City.
S. F. McDonald, Cleveland.
Warren Webster, Camden, N. J.
W. H. Chenoweth, Jr., Chicago.

Entertainments.

On Monday evening the delegates and visitors scattered throughout the city viewing the sights observed the formal opening of the Niagara, the streets being a blaze of electric lights strung most effectively. At the booming of a cannon the mayor threw on the switch for the extra illumination. At 8:30 an automobile parade took place, more than one hundred cars being in line, prettily decorated with lanterns, flags and bunting.

Later in the evening an informal reception to the ladies and visitors was held in the parlors of the International Hotel, music being furnished by Prof. Henry Sticht's orchestra.

On Tuesday afternoon at 3 o'clock the ladies and visitors were taken for **an automobile ride** through the parks, island and city, refreshments in the shape of candy and bonbons being served by the Candy Kids, otherwise Messrs. Pinder and Garfield.

At 8 o'clock on Tuesday evening a large portion of the delegation collected at Schwartz's Bowling Academy to take part in and witness the bowling contests as scheduled. The gentlemen who did not bowl amused themselves by playing pool and billiards. The contest between the Supply Men's Association and the Master Steam and Hot Water Fitters was hotly contested and marked with much good-natured rivalry. The supply men were out with blood in their eye, as they have been repeatedly beaten by the bulky and aggressive fitters, who were again victorious in all three games, as will be seen by the following score:

Supply Men.

	1st game	2d game	3d game	Total
Danforth	147	119	103	369
Cosgrove	160	171	168	499
Self	182	180	156	516
Wood	144	114	168	426
Foster	173	126	170	469
	806	710	765	2281

Steam Fitters.

	1st game	2d game	3d game	Total
Miller	194	169	205	568
Lawson	177	178	169	524
Zellers	149	133	149	431
Berla	160	165	104	429
Gombers	143	144	165	452
	823	789	792	2404

The Steam Fitters' winning hands down by 123 points.

The five highest scores made by the men drew the following prizes: Miller, 568 points, a fountain pen; Lawson, 524 points, a handsome umbrella; Gombers, 452 points, an elegant cane; Zellers, 431 points, a beautiful stick pin, and Berla, 429 points, a most attractive pipe.

The prizes for both ladies and gentlemen were laid upon tables and in the order in which they won, each victor being allowed to choose his trophy.

The contest among the ladies for the many and beautiful prizes offered upon the occasion was long continued and warmly contested, but with the sage advice and undivided interest of Messrs. Chew and Garfield, the following resulted:

Miss Helen Zellers, 143 points, first prize, a most handsome cut glass dish, which would most suitably adorn **any man's table.**

Miss B. Zellers, 129 points, second prize, an umbrella.

Mrs. Armagnac, 122 points, third prize, an attractive hand bag—mighty convenient on a shopping tour.

Mrs. Pinder, 117 points, fourth prize, a purse, good to hold money in (if you have any left on departing from Niagara Falls).

Mrs. Rutzler, 114 points, fifth prize, a beautiful embroidered stand cover, which was certainly a credit.

Mrs. Curtin, 112 points, sixth prize, a bracelet.

Mrs. Rosine, 105 points, seventh prize, another cover.

Mrs. Bradley, 101 points, eighth prize, a beautiful parasol.

Mrs. O'Keefe, 98 points, a belt buckle.

Mrs. Clancy, 91 points, a belt buckle.

Upon the close of the contests the contestants and friends adjourned to the banquet room of the International Hotel and enjoyed a refreshing repast, which had most thoughtfully been provided.

The prizes were afterward awarded by that master of ceremonies, Frank K Chew, who in his own inimitable manner kept the room convulsed with merriment.

The prizes for the golf tournament were at this time awarded. This event had been furiously contested on Monday afternoon by three **contestors,** Messrs. Garfield, Danforth and Graham, **who each received a prize;** Garfield a fountain pen, Danforth and Graham each a loving cup.

After speeches by the happy victors, the assemblage disbanded at a very late hour.

On Tuesday morning William G. Le Compte of New York City, chairman of the entertainment committee of the Manufacturers' and Supply Men's Associations, called a meeting of the associations at the close of the formal opening of the convention, and perfected arrangements for the entertainments. The following committees were appointed:

Committee on Finance: Messrs. Danforth, Miller and Wood.

The Candy Kids: Messrs. Pinder and Garfield.

Floor Committee: W. G. McCormick, F. P. Keeney, C. A. Miller, G. H. Chisner and E. C. Fisk.

Scorers for the Ladies: G. A. Garfield, Frank Chew.

While the business meeting was in session **Wednesday morning,** the ladies and some of the visitors were taken upon a trip on the steamer **"Maid of the Mist,"** famed in the history of the Falls, and enjoyed the thrilling ride and the close, moist view of the Falls, only to be obtained by this means.

After the picture of the convention was taken at 3 p. m., the assemblage took, by special trolley trains, the wonderful and thrilling ride up the world famous **"Gorge Route,"** and viewed the magnificent prospects and scenery, and arrived at the hotel, tired but happy, a few minutes before 6 o'clock, and each with a famous appetite for dinner.

Wednesday Evening.

The convention hall was thoroughly rearranged and a temporary stage erected at one side in anticipation of **the vaudeville performance** arranged by the ever-

ready entertainment committee, for members, guests and the ladies.

The vaudeville artists were from Buffalo and the performance began promptly at 9 o'clock, and for nearly two hours the audience were delighted with the latest songs, dances, clever impersonations, local hits glanced upon the highly polished heads of more than one officer of the association.

After the performance was concluded **dancing was indulged in** until a late hour, the music being furnished by Professor Sticht's orchestra.

Among the Supply Men.

The United States Radiator Co., of Dunkirk, N. Y., was ably represented by F. Hokes, E. W. Sanborn, H. S. Martin and M. E. Danforth, manager of the Washington (D. C.) branch.

The H. B. Smith Company, of Westfield, Mass., delegated G. H. Chasmar, Chas. A. Miller, G. D. Kellogg, R. D. Reed, W. Reed and W. T. Smith to look after its interests which they did in a most effective manner.

John F. Hale and H. A. Joslin were present, meeting their friends in the interest of the Consolidated Engineering Co., of Chicago.

The American Radiator Co., of Chicago, placed its affairs in the hands of Chas. K. Foster, T. H. Huddleston, W. Sterns, N. Whitlaw, Frank Howe, E. A. May and N. M. Cosgrove, who acquitted themselves admirably in looking after the interests of their company.

Geo. W. Barr, of the **Isaac A. Sheppard & Co.,** Philadelphia, Pa., honored the convention with his presence.

The Gurney Heater Manufacturing Co.'s interests were efficiently looked after by George Rinkenberger.

W. Webster, of the **Warren Webster Co.,** Camden, N. J., cared for the interests of his concern in a most able manner.

Nye, the Die Man, smilingly looked in upon the convention on Monday and then hustled on to further conquests. He left a wolf at the door, in the shape of one Peter P. Wolff, who most efficiently demonstrated the merits of the articles manufactured by the company.

Keasbey & Mattison Co., Ambler, Pa., was represented by Frank Wood who was much in evidence during the convention.

Frank Dobson, backed by L. Moore, looked after the interests of the **Frank Dobson Co.,** of New York.

The Ashton Valve Co., of Boston, Mass., was represented by Frank Corbell.

The National Vacuum Heating Co., of Marshalltown, Ia., was represented by L. B. Mellor, who saw to it that the interests of his firm were looked after with care.

The Pressed Radiator Co. of America, of Pittsburg, Pa., was represented by John F. Siegel, manager of its Chicago branch, and J. Barton Garfield, who was the Beau Brummel of the occasion.

Harry Welch, a very genial gentleman, came over to look after the interests of Samuel Sloan & Co., of Rochester, N. Y.

McDonald Bros., of Cleveland, O., were most ably represented by S. F. McDonald and J. J. McDonald.

B. C. Johnson, president of the **American Thermostat Co.,** of Elmira, N. Y., was very much in evidence demonstrating the Marvel Thermostat and decorating all members and visitors with his butterflies.

Jenkins Bros., of New York interests, were most carefully looked after by Jack Stiles and that psychological charmer, William G. Le Compte.

The Standard Steam Specialty Co., of New York, left their interests to the keeping of P. H. Pinder.

Francis Bros. & Jellett, of Philadelphia, Pa., were in evidence in the person of Mr. **Jellett.**

W. L. Herendeen, C. W. Burdick and E. S. Dean met many old friends and made new ones in the interests of the **Herendeen Mfg. Co.,** of Geneva, N. Y.

The J. L. Moot Iron Works, of New York, deputized J. J. Blackmore to watch out for their interests which duty he most efficiently accomplished.

The United States Heater Co., of Detroit, Mich., trusted their interests to the tender keeping of H. T. Cole.

The National Radiator Co., of Johnstown, Pa., placed John Waters on the ground as a gentleman worthy to care thoroughly for its interests.

The Robert A. Keasbey Co., of New York, was much in evidence "Jumping the Business," handed out by Louis E. Eden.

W. M. Mackay, manager of the **Mackay Mfg. Co.,** of New York, was on the ground renewing old friendships and making new ones.

The Magee Furnace Co., of Boston, Mass., had R. F. Burns shaking hands with their many friends.

The Arthur McGonagle Co., of New York, was represented by A. McGonagle.

A. W. Von Lilienthal, of New York, was on hand passing out circulars regarding the Flow indicator.

James A. Donnelley, president of the **Positive Differential System Co.,** of New York, was able to meet and interest many friends during the convention.

"Useful Hints," the title of a booklet compiled by the Master Fitters' Association of Philadelphia, was distributed and should be in the pocket of every master.

Chas. H. Denison.

Obituary

Robert Dunn, a well-known master plumber at Hanford, Cal., met his death last week while swimming in the King's river, being seized with cramps. The attack was so sudden that he sank before friends in his party could come to his assistance.

Thomas P. Healy, for many years manager of the Boston branch of the International Heater Company of Utica, N. Y., passed on at his home in Chelsea, Mass., on Sunday morning, June 13. His large circle of friends in the trade will regret to hear of his demise.

TO REVISE PLUMBING ORDINANCE.

Trenton, N. J.—Plumbing Inspector George W. Feaster and Acting Solicitor Blackman have been requested to prepare a revision of the plumbing code, to be submitted to the board of health at its next meeting, which will be held July 12.

THE SUPPLY MEN'S GREAT JOINT CONVENTION

EASTERN AND CENTRAL SUPPLY MEN AT ATLANTIC CITY.

Atlantic City, N. J., June 15.—[Special]—**The meetings of the Eastern Supply and Central Supply Associations at the Chalfonte were well attended** and many problems of vital import to the trade discussed in executive session.

The following were in attendance at the Eastern Supply meeting. Among those who were not members but ran down to see some who were in attendance were: President Wm. M. Pattison, of the National Supply and Machinery Dealers' Association, of Cleveland, and Vice-President W. L. Rodgers, Pittsburg, of the same association. J. C. Miller, Huntington, W. Va., ex-president of the Southern Supply and Machinery Dealers' Association, was also in attendance.

It rained Monday evening and Tuesday, so that the sights along the board walk were not as enticing as many had desired and consequently resulted in a large concourse of those in attendance remaining inside to extend the warm hand of welcome to all their friends.

Tuesday afternoon at a general meeting of both associations the question of standardization was the principal topic. Many speeches were made pro and con and the question quite thoroughly aired. The committee having the "Naco" proposition in hand are hard at work and expect very soon to be able to make a decisive report.

Theodore Ahrens, president of the Standard Sanitary Manufacturing Company, came down accompanied by W. A. Myler, treasurer of the company. Mr. Ahrens looked the picture of health after his extended sojourn in the West. Mr. Ahrens took upon himself to celebrate his birthday, Tuesday, and with a large delegation of jobbers and manufacturers, who wished him many returns of the same, seemed to enjoy the occasion immensely. They all wished him many years of health and a renewal of his old-time vigor.

Wednesday a meeting of the National Committee of the Confederated Supply Association was held at the Chalfonte and matters of importance to that body were gone into with a vim, inspired by the refreshing atmosphere now on tap at the resort.

Everybody seemed satisfied with the progress made at the meeting and on the whole it was considered a most successful gathering.

The following names indicate those in attendance at the Eastern Supply meeting:

John A. Campbell, Trenton Potteries Co., Trenton.
W. L. Blake, W. L. Blake Co., Portland, Me.
Wm. Schulmerick, L. O. Koven & Bro., New York.
L. O. Koven, L. O. Koven & Bro., New York.
F. C. Smith, Bay State Brass Co., New York.
C. K. Sanborn, Bay State Brass Co., New York.
S. E. Hunting, Hunting Co., Watertown and Rochester, N. Y.
R. G. Williams, Stanley G. Flagg Co., Philadelphia.
Harry J. Lyons, Keystone Pottery Co., Trenton.
John H. Gilroy, of R. C. McClure Co., Syracuse. N. Y., and McCambridge Co., Philadelphia.
R. Collings, Haydenville Co., Haydenville, Massachusetts.
J. D. Brady, Empire Rubber Mfg. Co., Trenton.
Robt. E. Sargeant, Standard Sanitary Mfg. Co., Boston.
Jas. F. Cowan, Standard Sanitary Mfg. Co., New York.
F. W. Webb, F. W. Webb Mfg. Co., Boston, Mass.
Thos. J. Berkstresser, T. J. Berkstresser Co., Philadelphia.
W. J. Gowdy, Monument Pottery Co., Trenton, N. J.
W. H. Barth, J. M. Kohler Sons Co., Sheboygan, Wis.
E. Raysor, Stanley G. Flagg Co., Philadelphia.
Howard T. Gates, McCrum-Howell Co., New York City.
J. Chas. Parry, Standard Sanitary Mfg. Co., Philadelphia.
John G. Fleck, Fleck Bros. Co., Philadelphia.
J. H. Mueller, Standard Tank & Seat Co., Camden, N. J.
W. A. Speakman, Speakman Supply & Pipe Co., Wilmington, Del.
T. C. Boswell, Aird-Don Co., Troy, N. Y.
A. E. Ford, Ford & Kendig Co., Philadelphia.
Wm. A. McPhail, Jas. Robertson Mfg. Co., Baltimore.
W. L. Lawton, Central Fdry. Co., New York City.
John A. Hibbard, of Chicago.
Benj. Mills, Abendroth Bros., New York City.
J. T. Duryea, Colwell Lead Co., New York City.
T. M. Maddock, Thos. Maddock's Sons Co., Trenton.
G. R. Adams, Samuel Sloan & Co., Rochester.
John Weekes, John Weekes & Son Co., Watertown, N. Y.
H. B. Hallett, John Wood Mfg. Co., Conshohocken, Pa.
W. B. Maddock, John Maddock Sons, Trenton.
C. F. Bennett, Syracuse, N. Y.
Harry M. Smith, Locke & Smith Co., New York City.
E. S. Thompson, Haynes-Thompson Co., Philadelphia.
Milton L. Lissberger, M. Lissberger & Son, Inc., Long Island, New York City.
Walter S. Gibbs, Ronalds & Johnson Co., New York Ctiy.
Geo. H. Bellou, of New York City.
T. B. Reeves, Ford & Kendig Co., Philadelphia.
Emanuel Sharp, P. A. & S. Small Co., York, Pa.
John F. Evans, Wyoming Valley Supply Mfg. Co., Wilkesbarre, Pa.
Frank H. Locke, Locke, Stevens & Co., Boston.
I. Watts Bowker, Central Fdry. Co., New York City.
B. Schutz, Somerville Iron Wks., New York City.
Wm. Froelich, Froelich Bros., Philadelphia.
R. M. Fielder, Trenton Potteries Co., Trenton.
J. E. Zimmerman, Standard Tank and Seat Co., Camden, N. J.
Edw. L. Delaney, Coyne & Delaney Co., Brooklyn, N. Y.
J. W. Farrell, Mitchell & Van Meter Co., Linfield, Pa.

Jos. E. Defray, A. P. Smoyer Co., Philadelphia.
C. H. Simmons, John Simmons Co., New York City.
Chas. W. Frean, John Simmons Co., New York City.
F. W. Dow, Keystone Supply & Manufacturing Company, Philadelphia.
F. W. Bamford, John Maddocks Sons, Trenton.
C. S. Johnson, Northern Brass Mfg. Co., Waukegan, Ill.
H. H. Sommer, American Plumbing Mfg. Co., New York City.
B. Lissberger, Somerville Iron Works, Somerville, N. J.
H. H. Thorndike, F. W. Webb Mfg. Co., Boston.
C. G. Beach, U. S. Sanitary Mfg. Co., New York City.
H. W. Thorndike, Concord Wood Working Co., Concord, N. H.
M. T. Yarbrough, McGraw, Yarbrough, Richmond, Va.
A. A. Tomlinson, Virginia & Carolina Supply Co., Norfolk, Va.
Henry Stein, New York City.
Walter Walls, Walls, Owen & Stambach Co., Philadelphia.
G. G. Wagner, Chas. Millar & Son Co., Utica, N. Y.
John A. Murray, New York City.
G. E. Keener, Bayonne Supply Co., Bayonne, N. J.
John McPhail, James Robertson Mfg. Co., Baltimore.
John Mitchell, Jr., of John Mitchell, Jr., Washington, D. C.
J. K. Heyl, C. J. McCubbin Co., Washington, D. C.
A. G. Laird, McRae-Roberts Co., Detroit, Mich.
P. M. Beecher, Syracuse, N. Y.
A. K. Raub, Sheet Metal & Supply Co., Lancaster, Pa.
R. E. Weeks, R. E. Weeks Co., Scranton, Pa.
H. L. Raub, Sheet Metal Supply Co., Lancaster, Pa.
L. S. Rothwell, American Pin Co., Waterbury, Conn.
W. W. Bowers, American Pin Co., Waterbury, Conn.
O. J. Saxe, Dalton-Ingersoll Mfg. Co., Boston.
W. V. Warren, Warren, Balderston & Co., Trenton.
Wm. Barth, J. M. Kohler Sons Co., Sheboygan, Wis.
Walter J. Kohler, J. M. Kohler Sons Co., Sheboygan, Wis.

The Central Supply Association was represented as indicated in the following list, or by proxy:

Plumbers' Woodwork Co., Algona, Wis.
May Supply Co., Anderson, Ind.
General Supply Co., Atlanta, Ga.
The Hammond-Byrd Co., Birmingham, Ala.
W. H. Allman, W. H. Allman Co., Canton, O.
F. H. Caldwell of the Cahill Iron Works, Chattanooga, Tenn.
W. M. Webster (proxy), W. D. Allen Mfg. Co., Chicago.
H. M. Haldeman, Crane Co., Chicago.
Davies Supply Co., Chicago.
Federal-Huber Co., Chicago.
Gould Company, Chicago.
Henion & Hubbell, Chicago.
C. V. Kellogg, Kellogg-Mackay Co., Chicago.
B. T. Bechtel, Mark Mfg. Co., Chicago.
C. E. Van Court, J. L. Mott Iron Works, Chicago.
E. C. Garrity, National Plumbing & Heating Supply Co., Chicago.
H. S. Raymond, Chicago.
W. A. Ratcliffe, Republic Mfg. Co., Chicago.
J. J. Ryan, of J. J. Ryan & Co.
Weir & Craig Mfg. Co., Chicago.
Western Plumbing Supply Co., Chicago.
E. W. Sedgwick, Wilks Mfg. Co., Chicago.
John F. Wolff, H. M. Hoelscher of L. Wolff Mfg. Co., Chicago.
Jno. D. Hibbard, Chicago.
Alfred J. Jopp, David C. Jones, The Lunkenheimer Co., Cincinnati, Ohio.
A. A. Merkel, Merkel Bros., Cincinnati, Ohio.
D. T. Williams, C. K. Thomas, The D. T. Williams Valve Co., Cincinnati, Ohio.
W. O. Callow, Kennedy Company, Cleveland, Ohio.
Edw. K. Ascher, Ascher Supply Co., Columbus, Ohio.
L. C. Huesman, Scioto Valley Supply Co., Columbus, Ohio.
Dayton Supply Co., Dayton, Ohio.
Atkins-McGee Supply Co., Denver, Colo.
M. J. O'Fallon, M. J. O'Fallon Supply Co., Denver, Colo.
Herbert I. Lord, Detroit Lubricator Co., Detroit, Mich.
E. W. Stoddard, Detroit Range Boiler Co., Detroit, Mich.
James Harvey, A. Harvey's Sons Mfg. Co., Ltd., Detroit, Mich.
M. G. Pierson and H. H. Hess, United States Heater Co., Detroit, Mich.
Walker Mfg. & Supply Co., Detroit, Mich.
Geo. H. Van Arnam, Knott-Van Arnam Mfg. Co., Fort Wayne, Ind.
Ferguson Supply Co., Ltd., Grand Rapids, Mich.
Wolverine Brass Works, Ltd., Grand Rapids, Mich.
Central Closet Mfg. Co., Holland, Mich.
G. Schumacher, Union Foundry Co., Anniston, Ala.
W. R. Darrow, Enameled Steel Tank Co., Kalamazoo, Mich.
Quinn Mfg. Co., Kalamazoo, Mich.
Geo. H. Gorton, W. B. Young Supply Co., Kansas City, Mo.
Columbia Pottery & Mfg. Co., Kokomo, Ind.
A. V. Conradt and E. Willard, Great Western Pottery Co., Kokomo, Ind.
Geo. H. Laib, Laib Co.
Samuel H. Moon, Ahrens & Ott Mfg. Co.
T. R. Barnes, The Barnes Mfg. Co., Mansfield, Ohio.
A. I. Laing, Humphryes Mfg. Co., Mansfield, Ohio.
R. R. Schultz, Becker Mill Co., Marietta, Ohio.
E. F. Niedecken, Hoffmann & Billings Mfg. Co., Milwaukee, Wis.
P. J. Frey, Central Supply Co., Minneapolis, Minn.
Geo. Kaiser & Co., Muncie, Ind.
S. Watts Bowker, New York City.
E. V. Brigham and C. N. Gates, Union Sanitary Mfg. Co., Noblesville, Ind.
J. B. Rahm, United States Supply Co., Omaha, Neb.
Warren Kinsey, Kinsey & Mahler Co., Peoria, Ill.
Nailon Bros. Co., Peoria, Ill.
H. L. Andrews, Anchor Sanitary Co., Pittsburg, Pa.
Geo. H. Bailey and W. B. Bryar, Bailey-Farrell Mfg. Co., Pittsburg, Pa.

A. H. Bowman, Bowman Supply & Mfg. Co., Inc.,
James M. Young, Fort Pitt Supply Co.
J. A. Kelly, Iron City Sanitary Mfg. Co.
F. W. Peters, W. B. Scaife & Sons Co.
J. D. Purdy, Jr., Spang, Chalfant & Co.
W. A. Myler, Standard Mfg. Co.
Theo. Ahrens, Standard Sanitary Mfg. Co.
A. H. Cline, Jr., United States Sanitary Mfg. Co. Pittsburg, Pa.

D. B. Trahern, Rockford Brass Works, Rockford.
American Foundry & Mfg. Co., St. Louis, Mo.
Wm. Ivy, N. O. Nelson Mfg. Co., St. Louis, Mo.
American Foundry & Mfg. Co., St. Paul, Minn.
C. G. Bettingen, Western Supply Co., St. Paul.
P. J. Frey, Union Brass & Metal Mfg. Co., St. Paul.
Jos. Nelson, Joseph Nelson Supply Co., Salt Lake City, Utah.
Walter J. Kohler, J. M. Kohler Sons Co., Sheboygan, Wis.

Miller-Hubbard Mfg. Co., Sturgis, Mich.
Frank Prox Co., Terre Haute, Ind.
The American Plumbers' Supply Co., Toledo, Ohio.
L. C. Huesmann, Knapp Supply Co., Union City, Ind.

Day-Ward Co., Warren, Ohio.
C. S. Johnson, Northern Brass Mfg. Co., Waukegan, Ill.

Geo. W. Lutz, Trimble & Lutz Supply Co., Wheeling, W. Va.

Geo. E. Day, Youngstown Sheet & Tube Co., Youngstown, Ohio.
C. L. Selkregg, Pittsburg Valve & Fittings Co., Barberton, Ohio.
C. C. Todd, Central Foundry Co., Chicago.
C. A. Carothers, Standard Mfg. Co., Cleveland, Ohio.
W. E. Watson, National Tube Co., Pittsburg, Pa.
J. M. Stoddard and Frank Collins, National Supply Co., Toledo, Ohio.

Also the following gentlemen were noticed about the lobby of the Chalfonte:

Sidney Frohman, president of the Threading Machine Co., Sandusky, Ohio.

W. T. Jamison and J. O. Patrick of the Ohio Brass Company of Mansfield, Ohio.

Clarence M. Stokes, Norristown Magnesia Co., Norristown, Pa.

H. H. Hellerman, **Penn Engineering Co., Phila.**
Geo. R. Acheson, Acheson Mfg. Co., Rankin, Pa.
W. G. Cook, Trenton Pattenes Co., Trenton, N. J.
Benj. Noble Capital Brass Works, Detroit, Mich.
Walter R. Darrow, Enameled Steel Tank Co., Kalamazoo, Mich.
H. Hammond, Hammond Byrd Co., Birmingham, Ala.

Thos. K. Olee, General manager, Kitzon Hydro-Carbon Heating & Independent Lighting Co., Philadelphia.

Jos. L. Fritz, general sales agent, Kitson Hydro-Carbon Heating and Incandescent Lighting Co., Philadelphia.

Wm. L. Rodgers, president, Pitts. Gage & Supply Co., Pittsburg.

J. C. Miller, Miller Supply Co., Huntington, W. Va.
H. S. Minnich, Philadelphia.

W. M. Pattison, W. M. Pattison Supply Co., Cleveland, president Natl. Supply & Machine Distrs. Assn.
Chas. K. Thomas, vice president D. T. Williams Valve Co., Cincinnati.
Arthur H. Bowman, secretary Bowman Supply Mfg. Co., Pittsburg, Pa.
Mrs. L. Lawton, Central Foundry Co., New York.
Clifton Wharton, Jr., National Tube Co., New York.
J. M. Downer, Natl. Lead Co., Pittsburg, Pa.
C. R. Heap, Wm. Heap & Sons, Grand Haven, Mich.

CHICAGO HEATING MEN READY FOR GREAT BASEBALL GAME AT RAVINIA PARK.

The final notice, announcing everything in readiness for **the great baseball game,** which is to be held **at Ravinia Park,** near Chicago, **on Wednesday afternoon, June 23,** between the **Chicago Master Steam Fitters' team and the Radiator and Boiler Salesmen's baseball team, has been received.**

The "aggregation of players and spectators will leave the Chicago & Northwestern depot, Kinzie and Wells streets, on the 2 o'clock (p. m.) train. **Immediately after the game there will be a banquet,** $1.50 per plate, for which **reservations should be made as soon as possible,** by addressing Wm. Scudder, 284 Michigan avenue, Chicago. The final notice states that the event is backed by: Kewanee Boiler Co., American Radiator Co., Consolidated Engineering Co., Niagara Radiator Co., Cameron, Schroth, Cameron Co., L. J. Mueller Furnace Co., Kellogg-Mackay Co., Powers Regulator Co., Scott Valve Co., United States Heater Co., United States Radiator Co., Holland Radiator Co., Jenkins Bros., International Heater Co., J. L. Mott Iron Works, Spencer Heater Co., Johnson Service Co., and the Steam Heating Contractors of Chicago. It is further announced that Chas. H. Denison will report the game for "Domestic Engineering," and that Louis Bruch has been appointed official photographer.

BOILER STANDARDIZATION COMMITTEES MEET.

Niagara Falls, N. Y.—June 14—[Special].—The Committees on Standardization of Boilers and Radiators of the American Society of Heating and Ventilating Engineers and of the National Association of Master Steam and Hot Water Fitters held a conference this afternoon at the Prospect House in this city with representatives of the Boiler and Radiator Manufacturers' Association, at which **the question of standardization of boilers and radiators was discussed.** Among those present were: John H. Kinealy (chairman), John R. Allen, Wm. M. Mackay, Wm. G. Snow, H. A. Smith and P. H. Seward.

A NEW HOUSE ORGAN.

The Honeywell Heating Specialty Co. of Wabash, Indiana, has issued the first number of "Circulation," a house organ which will endeavor to make the heating trade of the country more thoroughly acquainted with the merits of the Honeywell specialties. The first page is devoted to an illustration of the operation of the Honeywell heat generator. Page 5 is given to a

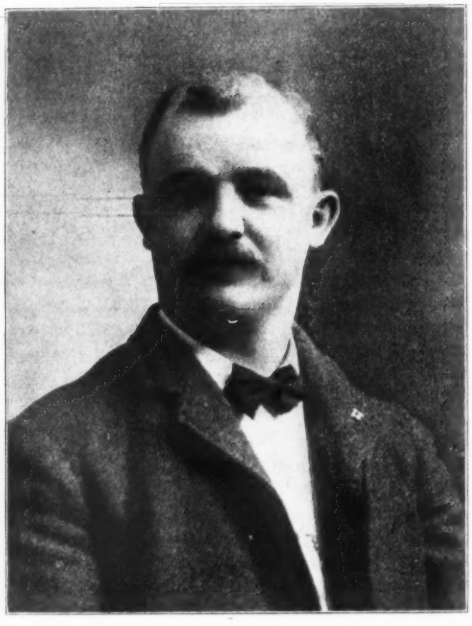
description of the Honeywell unique hot water radiator valve. The editorial page treats of the "Growth of the Honeywell System," "The Honeywell System in Canada," and "Why We Make Heating Plans." The remaining pages are filled with descriptions of installations, items from various localities in which the Honeywell specialties have been used, testimonials, and illustrations of buildings and of fitters. The double page piping plan should prove particularly interesting.

TRAVELING MAN WANTED.

We could locate a traveling man for the northern part of Indiana if he has had experience in steam, hot water, mill supplies and plumbing goods. Address the president of "Domestic Engineering," Chicago.

CHICAGO MASTER PLUMBERS' OUTING.

Chicago.—The annual outing of the Chicago Master Plumbers' Association occurred on Wednesday, June 16th. The day dawned clear and bright, and nature did her best to make it a grand success. By 9:30 a large number of master plumbers and their families had assembled at the Clark street bridge, and at 10 o'clock the start was made on the new steamer United States for Michigan City, and all on board settled themselves for three hours of solid contentment. The excellent quartet, composed of Messrs. Belisle of the Western Plumbing Supply Co., M. Whitney of the H. Mueller Mfg. Co., Wm. Howard and Wm. Crowling were popular entertainers.



E. C. Wagner, Chicago.

A successful plumbing contractor, treasurer of the Chicago Master Plumbers' Association, and chairman of the arrangement committee which made the summer outing of that organization this week a most pleasant and memorable event.

Michigan City was reached at 1 o'clock, and dinner was the first thing on the program. Those who had foreseen this feature sought out the cool places of Washington Park with their well-filled baskets, while others found hotels and restaurants.

The feature of the day was the ball game played by teams from the South and the North and West Sides. The line-up for the South Side was as follows: Keizer p, Howard c, Alford 1b, Crowley 2b, Zash 3b, Gilmore ss, Deming lf, Ladd cf, Wm. Hanrahan rf and manager. The North and West Sides lined up as follows: E. C. Wagner p, W. Adams c, Clayton 1b, A. Arnold 2b, Swade 3b, W. Meyer lf, Wardell cf, L. A. Claussen rf, Grosch ss. The game was umpired by Wm. J. Lang and Capt. Fred Wagner, and after playing five innings the score stood 5 to 4 in favor of the South Side team. The return trip was cool and delightful, and numerous pastimes were indulged in, chief among which were cards and dancing, and at 7:30 the United States landed every one safely in Chicago, tired but with a feeling that the day had been well spent and that the 1909 outing was a great success. Much credit for its success is due to E. C. Wagner and his able committee on arrangements.

Personal

A. P. Gifford, Newark, N. J., is now representing the United Brass Manufacturing Co. of Cleveland.

John D. Blake of the Blake Specialty Company, Rock Island, Ill., was a visitor to the Chicago trade this week.

Geo. E. McDonald of the plumbing firm of McDonald Bros., Cedar Rapids, Iowa, was in Chicago this week calling on the trade.

P. J. Madden, of J. B. Clow & Sons, Chicago, is at present in New Jersey. On Tuesday of this week he called on some of his friends in Trenton.

A. C. Cogswell, vice-president and secretary of the Detroit Sanitary Supply Company, Detroit, Mich., is making an extended business trip through the East, calling on his friends in the trade.

H. W. Fisher, for the past four years with the Oneida Steel Pulley Company, Oneida, N. Y., in its home office, has accepted a position with the S. F. Bowser Company of Fort Wayne, Ind.

A. H. French, of Melrose, Mass., "Domestic Engineering's" Boston representative, is receiving congratulations from his many friends in the trade on account of his marriage to Miss Helen Louise McKean, which took place on Thursday, June 10.

Clarence L. Behrer of Arnold Behrer & Sons, Beekman street, New York, quietly joined the benedicts on June 2. The happy bride was Miss Hattie Wenish, niece of Comptroller Metz of Greater New York. They are at present on their wedding trip.

Savannah, Ga.—Alfred Roddier, the youthful inspector of plumbing in this city, recently called a meeting of the master plumbers of this city for the revision of the present plumbing ordinance. Amendments to it will probably be made in the near future.

THE WAGE QUESTION AMONG THE PLUMBERS

San Francisco Master Plumbers Propose to establish the Wage Schedule that was in operation before the Earthquake and Fire

Journeyman Plumbers at Lawrence, Mass., on a strike for higher wages and shorter hours

SAN FRANCISCO PLUMBERS MAY SOON HAVE NEW WAGE SCHEDULE.

San Francisco, Cal.—While there has been no open agitation on the subject, it can readily be seen that something will soon be done here to bring about a change in the wage schedule now in force in the plumbing trade. San Francisco and vicinity is getting back to normal shape again and the conditions that prevailed in the wake of the great fire are very much altered. At that time the cost of living was boosted to figures that reminded old timers of the early days in this state and naturally wages were raised to meet this increased cost. During the past year and a half, however, the cost of living has been materially reduced and a decline in the price of almost everything except labor has taken place. In San Jose the wage question as affecting plumbers is already being openly discussed and a definite action has been decided upon. A committee representing the Builders' Exchange has been visiting the plumbing establishments and it is stated that it has secured a majority of signatures to an open shop agreement. The employers propose to establish the wage schedule that was in operation in that city prior to April 18, 1906. Other trades have followed in the lead that has thus been made and within a short time this new ruling will go into effect. While it is expected that trouble will result, it is felt that it is the proper way to proceed and a re-adjustment of wages is confidently expected. Just how or when this re-adjustment will be effected in San Francisco is a matter that will have to be solved, but that the wage question is a live issue and one that must be brought to a focus is the opinion of those interested in the business.

MAKE TEMPORARY AGREEMENT WITH STRIKERS.

Lawrence, Mass.—Journeymen plumbers are out on strike owing to their demands for increased pay, shorter hours and restrictions regarding apprentices. The master plumbers are holding out against the demands and have won 15 of the 52 members of the union to their side. Six firms have made temporary agreements with the strikers to enable them to finish contracts.

CONVENTION DATES.

June 22, 23 and 24, 1909.—The twenty-seventh annual convention of the **National Association of Master Plumbers,** at Detroit, Mich. Headquarters at the Pontchartrain.

June 29-July 3, 1909.—Annual meeting of the **American Society for Testing Materials,** in Atlantic City, N. J. Headquarters at Hotel Traymore.

July 15 and 16, 1909.—Summer meeting of the **American Society of Heating and Ventilating Engineers,** at Indianapolis, Ind. Headquarters at the Claypool Hotel.

August 9, 10 and 11, 1909.—Annual convention of the **International Acetylene Association** in New York City. Headquarters at the Hotel Knickerbocker.

August 24 and 25, 1909.—Regular quarterly meeting of the **National Association of Brass Manufacturers** in Detroit, Mich.

GOVERNMENT WORK

Washington, D. C.—Sealed proposals will be received at the office of Supervising Architect James Knox Taylor, until 3 o'clock, p. m., on the 14th day of July, 1909, for the extension, remodeling, etc., of the U. S. Post Office and Court House at Paducah, Ky., in accordance with drawing and specification.

Washington, D. C.—Sealed proposals will be received at the office of Supervising Architect James Knox Taylor until 3 o'clock p. m., on the 30th day of June, 1909, for the approach work at the Hygienic Laboratory of the Marine Hospital Service at Washington, D. C., in accordance with the drawing and specification.

Washington, D. C.—Sealed proposals will be received at the office of Supervising Architect James Knox Taylor until 3 o'clock p. m., on the 15th day of July, 1909, for the extension, remodeling, etc., of the U. S. Post Office, Court House and Custom House building at Newbern, North Carolina, in accordance with drawing and specification.

Washington, D. C.—Sealed proposals will be received at the office of Supervising Architect, James Knox Taylor, until 3 o'clock p. m., July 12, 1909, for the construction complete (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. Post Office at Winchester, Va., in accordance with drawings and specification.

Washington, D. C.—Sealed proposals will be received at the office of Supervising Architect James Knox Taylor until 3 o'clock P. M. June 30, 1909, for the construction (including plumbing, gas piping, heating apparatus, electric conduits and wiring) of the U. S. Post Office and Court House at Moscow, Idaho, in accordance with drawings and specifications.

No Joke.

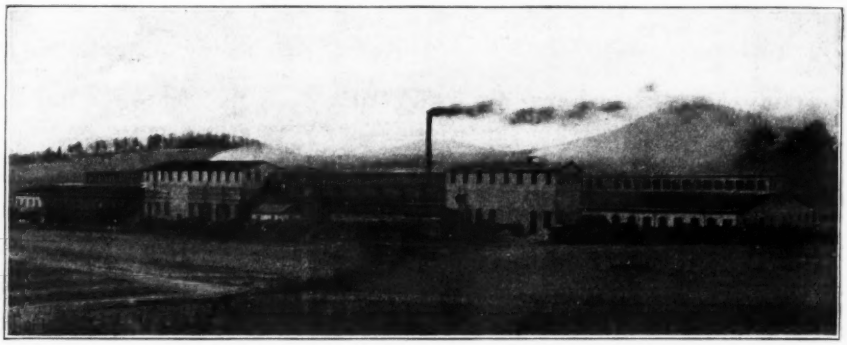
"If people would think twice before they speak conversation would be much more entertaining."

"If they'd think once it would help some."—Houston Post.

WITH THE MAKERS

Union Foundry Co.'s Up-to-Date Plant.

The Union Foundry Company of Anniston, Ala., has recently completed an addition to its new plant, which makes it rank among the largest of its kind in the United States. This company was organized in 1907 by Gerard Schumacher and associates, and it started operations on May 6 of that year. During the two years which have passed since the company commenced operations the total shipments have amounted to 1,000 cars with 20,000 tons of its finished product. Under the recent financial depression the plant was in steady operation, only six working days having been lost in the past two years. On four of these days work was suspended in order to reline the furnaces, and on the other two the plant was closed on account of funerals. It will thus be seen that the company has enjoyed an unusually remarkable demand for its products. The reason for this success is no doubt at least partly to be found in the fact that modern methods are practiced in this foundry, such as the chemical analysis of all the metal used and the adoption of every known facility that will reduce the cost of handling the iron and produce uniformity and quality in the company's products, including cast iron soil pipe and fittings, valve and service boxes, and cast iron specialties.



The up-to-date plant of the Union Foundry Company at Anniston, Alabama. The picture shows the new addition which was recently completed.

Self-Closing Work That Stood the Test.

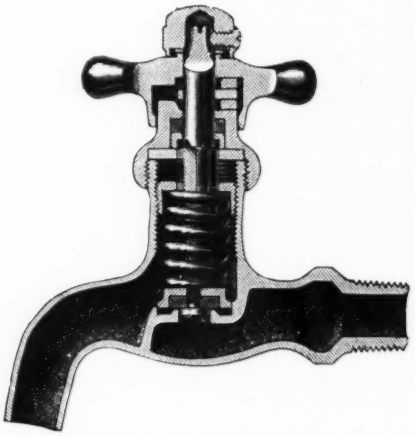
After being given a test equal to nearly twenty years of actual service Mueller Self-Closing work showed practically no wear, and experts who have examined it voice the opinion that the same test repeated, or the equivalent of forty years' continuous service, would still leave the cock in serviceable condition. It is doubtful if any self-closing work ever invented has been subjected to and stood up under such severe conditions as those applied to the Mueller Self-Closing work.

In the experimental department of the Mueller factory a mechanical device was recently constructed for opening and closing Mueller Self-Closing work which had been regularly connected to a supply pipe. This device opened a cock twenty-five times each minute, or 1,500 times each hour. It was kept in constant operation without the slightest stop for 466 hours, or nearly twenty days, and during that time the cock was opened and water passed through it 699,000 times.

At the end of that time the cock was removed and a critical examination made. The only visible wear was on the track formed by the cap and bonnet for the roller bearings, and this was so slight as to be almost unnoticeable. Indeed, it practically amounted to nothing, and it was apparent that the cock was fit to pass through a reproduction of the test and still be in serviceable condition. The roller bearings, the washer, the spring and every part of the cock was in absolutely first-class shape. The cock was adjusted to resist 300 pounds pressure. The test is regarded as being equivalent to twenty years of actual service.

Admitting that in actual service the cock would have been opened four times each hour of the twenty-four, the total openings for the day would have been ninety-six, and for 365 days 35,040. At that rate it would have taken nearly twenty years to have been opened and closed as many times as it was opened and closed under the mechanical testing device.

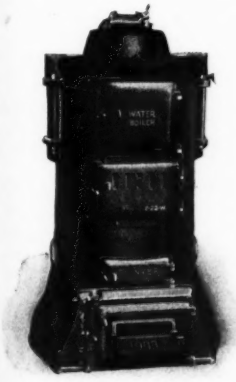
There are some points in this test demanding more than passing thought to determine their full significance. In the first place, the cock was adjusted to resist 300 pounds pressure, whereas in actual service it would not have been necessary to have adjusted it to more than 150 pounds. This increased tension on the phosphor-bronze spring naturally contributed to a greater continued strain than necessary. The Mueller Self-Closing work is full open at one-sixth turn of the handle, and under the mechanical device the handle was turned the full limit, the 699,000 times that the cock was opened.



Sectional view of Mueller self-closing cock, recently subjected a most severe and unique test.

New Outfits for Old.

"Nothing man-made is eternal," says Carlyle. Boilers, like other man-made contrivances, frequently outlive their usefulness, are too small, too old fashioned, too expensive to run to suit modern conditions. There are many of these obsolete types in every community; many perhaps in yours. Do you know how many, where they are, and when they will be replaced by modern IDEAL Boilers.?



An IDEAL Arco Water Boiler puts new life in the old house.

Many people "get along" with old heating equipment when they would install a modern, scientifically built IDEAL-AMERICAN outfit were the matter brought forcibly to their attention. This is profitable work for the heating contractor. It pays.

AMERICAN & IDEAL RADIATORS & BOILERS

A Heating Outfit is More Efficient with NORWALL and SYLPHON SPECIALTIES

AMERICAN RADIATOR COMPANY

General Offices, 282-286 Michigan Ave., Chicago.

New York	Cincinnati	Cleveland	Atlanta	Brantford, Ont.	Denver
Philadelphia	Boston	Milwaukee	Minneapolis	Seattle	St. Louis
Pittsburg	Buffalo	Indianapolis	Kansas City	Omaha	San Francisco

Every condition about the test was made very exacting and much more severe than is encountered in actual service for the reason that the Mueller experts were trying to find a weak spot to break down. They failed to find it.

It is claimed that cocks of other makes put on the same testing device under exactly the same conditions lasted 19 to 46 hours before developing some defect that unfitted them for service.

Dehn's "Peerless" Garage Floor Drains.

The increasing demand for garage, laundry and stable floor drains is being met by several manufacturers, one of these being the Compound Injector Specialty Company of 42-44 North Fifty-second Avenue, Chicago, Ill. This concern has designed and is now manufacturing several fixtures of this kind, the most notable being the large garage and laundry floor drain shown in the accompanying illustration. (See Fig. 1.) This drain is provided with a large receptacle for receiving mud, sand, lint or other matter which may be washed from the motor cars or discharged from large steam washers. With this arrangement the matter can be accumulated for some time and not interfere with the operation of the drain. When it becomes necessary to remove this accumulation, the receptacle can be lifted out of the

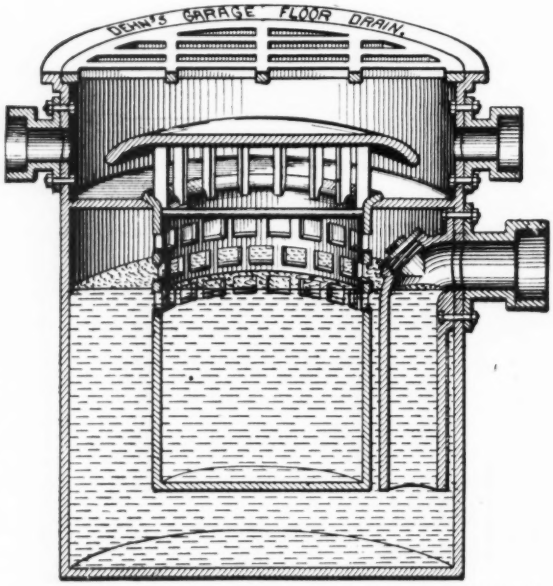


Fig. 1. Dehn's "Peerless" garage floor drain, designed for installation in large garages, stables, etc.

basin and deposited in a place provided for that purpose. The labor required to do this will take only a moment and can be performed by anyone. The solid top grate bar will prevent matches, sticks, string and other material from getting down into the receptacle. The basin is provided with a large air chamber between the top of the strainer and the water seal. This air chamber has hub vent outlet connections on either side of the basin, from which vent pipes can be conveyed to the outside of the building. With this arrangement the waste gasoline and grease flowing into the basin will evaporate and the gases will escape to the outside of the building. The vent pipes can be so arranged that a current of fresh air will be continually flowing through the air chamber of the basin. This will prevent any gases from forming in the basin, hence the garage, laundry or stable will be absolutely free from dangerous gases, and bad odors polluting the atmosphere will be entirely eliminated.

A smaller drain designed for use in private and small public garages has also been designed by this company, as shown in Fig. 2. The receiving hood of this drain is provided with hub connections for receiving surface water or waste from other fixtures, such as drinking fountains, lavatories, sinks, etc. The hub inlets can be provided with back water valves if desired. The receiving hood is also provided with vent hub outlet openings on either side of hood, from which vent pipes can be carried to the outside of the building to allow gases from the waste gasoline to escape.

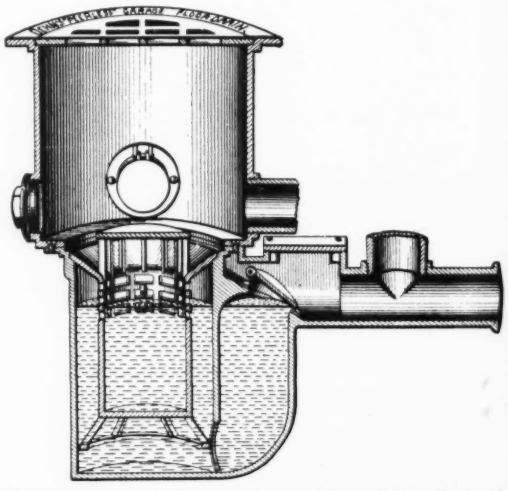


Fig. 2. Dehn's "Peerless" garage floor drain, designed for use in private or small public garages.

The manufacturer claims that these devices are the most practical and sanitary for the purpose they are intended for, and he adds that they are designed for use in cities where sanitary and practical floor drains are required. The fact that they are made of high-grade iron allows him to hold the opinion that they will last as long as the building in which they are installed.

A new catalogue illustrating and describing these and other plumbing specialties has been issued this month by the Compound Injector & Specialty Company, 42-44 North Fifty-second Avenue, Chicago, and will be sent promptly to interested parties who write for it and mention that "Domestic Engineering" gave them the tip.

Trenton, Mo.—M. F. Buckley has moved his plumbing establishment into the Trenton Light Company's building.

BOOK REVIEWS

"Sanitation and Sanitary Engineering," by Wm. Paul Gerhard, C. E., second revised and enlarged edition, published by the author, 33 Union Square, New York., at $1.50 a copy, 7½x5 in., 174 pages, bound in cloth.

When Prof. F. R. Hutton was president of the American Society of Mechanical Engineers he referred to the profession of sanitary engineering as follows: "The sanitary engineer is a specialist in hydraulic engineering in the application of water supply and drainage as means to secure the well being of the community as respects its public health." The author of this book, himself a widely known sanitary engineer, says that a general knowledge of civil engineering of architecture and sanitary science, in all their branches, forms the best basis of the education of the sanitary engineer. He then outlines briefly the course of studies and special training which in his judgment will enable a person to obtain the qualifications necessary to practice the profession of sanitary engineering. Surely this book should be of very great help to those who are looking to this professional field for the opportunity to engage their activities. The book will also be found of very great interest to those who only touch some one portion of the sanitary engineers' work, such as the design and installation of plumbing systems. We think a large field for the usefulness of this book will be found among city engineers who are required to do a great deal of sanitary engineering and do not in all cases have a preparation for that particular class of work. The book naturally falls into three principal divisions; the first is given over to a description of the profession of sanitary engineering and practice; the second describes the work of the sanitary engineer in time of epidemics, in time of war and in sudden calamities in civic life; while the third is a historical summary of sanitation in the United States from the year 1850 to 1900. To this is added a chapter on sanitation in Greater New York and, for the purpose of contrast, one on sanitation in Russia, or perhaps it might be called however, the lack of sanitation in Russia. This book I am sure will be read with very great interest by a large number of people.

"Sewage Purification and Disposal," by J. J. Cosgrove, published by the Standard Sanitary Mfg. Co., Pittsburg, Pa., 222 pages, 8¼x5½ in., 71 illustrations, 24 tables, cloth bound, gilt edge, $3.00 a copy.

The talented author of this book has endeavored to prepare a work which would show the method of constructing various types of sewage purification plants, their details and proportions, together with a description of materials best suited to the purpose, so that any one trained in engineering designs, by following the text, can successfully plan and proportion a sewage disposal works. The importance of furnishing this information to the sanitary engineers of the United States cannot be overestimated. At no time in the history of sanitation in this country has there been a greater demand for authoritative information in relation to the disposal of sewage. At no time has the public sentiment been aroused to a greater understanding of the undesirability of polluting water supplies. We welcome this book and speak for it a large sale among those interested in the subject.

Quick Action—Fuel Economy

It's easy to see why the **Capitol Solar Boiler** possesses these two most important qualities. Examine the construction of the fire pot which is the basis of this construction. The inner wall is corrugated, increasing the amount of direct heating surface and improving air circulation at fire edges.
There are six drop legs or thin water-ways extending outward and downward over the fire. The fire is compelled to strike the legs all around because of the flue passage between the drop legs. The fire-pot therefore literally **absorbs** the heat from the fire, insuring quickest possible action; result fuel economy. **19 Sizes—Steam and Water.**
5 Diameters of Grate. Guaranteed Ratings.

United States Heater Company.

General Offices and Works: Fort St. and Campbell Ave., DETROIT, MICH.

Branches:		Sales Agencies:
DETROIT	139 Jefferson Ave.	NORFOLK & RICHMOND, VA., Virginia-Carolina Supply Co
NEW YORK	129 Worth St.	MINNEAPOLIS, MINN., Plumbing & S. F. Supplies Co.
CHICAGO	34 Dearborn St.	ST. LOUIS, MO., L. M. Rumsey Manufacturing Co.
OMAHA	916 Farnam St.	DENVER, COLO., Kellogg & Stokes Stove Co.

TRADE LITERATURE

From Krueger & Christopher, 97-100 Warren street, New York City: An exceedingly elaborate 20-page pamphlet, entitled "The Innovation Flush Valve," illustrating and describing this new device, which is manufactured by Kuhn Specialties Company, of Newark, N. J., and said to be well adapted for any kind of buildings, both private and public, as it is very durable and requires no repairs. Krueger & Christopher, whose imprint the pamphlet bears, are sole agents for this flush valve.

From United States Heater Company, Detroit, Mich: "General Catalogue," 120 pages, 5x7½ inches, printed in two colors and containing illustrations and descriptions of the company's sectional and round boilers, tank heaters and radiators, valves, fittings, specialties and tools, etc. The catalogue also has a most interesting and instructive chapter on "Roughing-in Measurements," accompanied by many clear cut drawings illustrating the text in a most attractive and elucidat-

Handsome cover design of 120-page catalogue just issued by United States Heater Company, of Detroit, Mich.

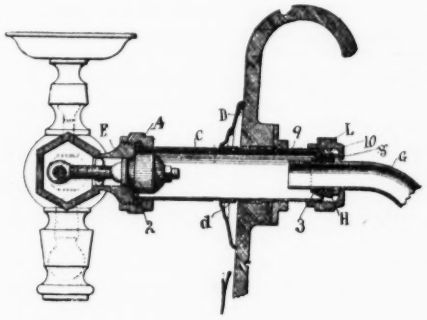
ing manner. The contents of the book are arranged with care, making it very convenient for reference purposes, an exceedingly good index adding much to its intrinsic value along this line. Other features of this catalogue which will make it a favorite with the heating fraternity are its many valuable tables and an essay on Chimney Flues.

From the Lavigne Manufacturing Co., Detroit, Mich.: "Twentieth Century Radiator Valves," a sixteen-page booklet 3½x6¼ inches, containing numerous wood cuts illustrating the quick opening, corner steam and hot water valves manufactured by this company. Copies of this booklet will be sent free of charge to interested parties who write for it and mention "Domestic Engineering."

PATENTS

922,471. Supply-Pipe Connection for Bathcocks. Joseph H. Glauber, Cleveland, Ohio. Among the claims made for this invention the following are probably the most noteworthy:

"A tubular coupling member of drawn metal of the same diameter end to end having an annular tapered reinforcement internally at one end adapted to seat a conical sealing member therein and provided with an



outwardly turned flange at its opposite end. A shank member for couplings, comprising a drawn metallic tube having its opposite ends constructed to be detachably connected with a water fixture and a supply pipe coupling, respectively, the intake end of said tube being bent inwardly with its inner edge bent outwardly against the wall of the tube and the other end of said tube being bent outwardly to provide a flange for a cupling member."

923,274. Valve. Andrew E. Kenney, North Plainfield, N. J.

923,333. Water and Air Valve for Steam-Heating Systems. Edward W. Comfort, Merchantville, N. J., assignor to Warren Webster & Company, a corporation of New Jersey.

923,470. Valve. Charles I. Williams, Utica, N. Y.

923,611. Valve. William E. Werd, Roundup, Mont.

923,616. Valve. George H. Benton, Metuchen, N. J.

923,668. Radiator-Cover. George E. Larsen and Alfred K. Johnson, Chicago, Ill.

923,808. Valve. Robert L. Breth, New Washington, and Paul M. Campbell, McGees Mills, Pa.

923,905. Water-Supply Apparatus. Thomas Smith, Salt Lake City, Utah.

923,992. Water-Meter. Peter A. McGurrin, Norwood, Ohio, assignor of one-half to William C. Winans, Norwood, Ohio.

924,039. Pipe-Fitting. George Clark, Chicago, Ill., assignor to The Economic Specialty Company, Chicago, Ill., a Corporation of Illinois.

924,041. Hose-Hydrant. Charles C. Corlew, Broderick, Cal.

924,047. Liquid-Soap Receptacle. Ernest E. Ellmann, St. Louis, Mo.

924,050. Water-Gage. Henry R. Fay, Boston, Mass.

924,052. Water-Supply Valve. Henry Gardenier, Paterson, N. J.

924,105. Water-Heater. Walter A. Pratt, Grafton, W. Va.

LIBRARY